PALM INTRANET

Day : Friday
Date: 4/6/2007
Time: 14:19:59

Inventor Information for 10/629838

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SATOMI, SUSUMU	MIYAGI	JAPAN
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KOGA, HIROSHI	TOKYO	JAPAN

Appln Info | Contents | Petition Info | Atty/Agent Info | Continuity/Reexam | Foreign

Search Another: Application# [ ] Search **or Patent#** [ ] Search

PCT / [ ] / [ ] Search **or PG PUBS #** [ ] Search

Attorney Docket # [ ] Search

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EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	2	"6867193".pn.	US-PGPUB; USPAT; DERWENT	OR	ON	2007/04/06 14:41
L2	2	"6852707".pn.	US-PGPUB; USPAT; DERWENT	OR	ON	2007/04/06 14:42
L3	1046	hepatic adj encephalopathy	US-PGPUB; USPAT; DERWENT	OR	ON	2007/04/06 14:42
L4	365	l3 and valine	US-PGPUB; USPAT; DERWENT	OR	ON	2007/04/06 14:42
L6	49	l4 and (oral or tablet or capsule)	USPAT; DERWENT	OR	ON	2007/04/06 14:47
L7	24	l6 and (albumin or albumine)	USPAT; DERWENT	OR	ON	2007/04/06 14:44
L8	0	l6 and (proteinemia)	USPAT; DERWENT	OR	ON	2007/04/06 14:45
L9	0	l4 and (proteinemia)	USPAT; DERWENT	OR	ON	2007/04/06 14:45
L10	32	l6 and ((liver adj disease) or cirrhosis or hepatitis)	USPAT; DERWENT	OR	ON	2007/04/06 14:48
L11	32	l6 and (((liver or hepatic) adj disease) or cirrhosis or hepatitis)	USPAT; DERWENT	OR	ON	2007/04/06 14:57
L12	8	"9600059"	USPAT; DERWENT	OR	ON	2007/04/06 15:17
L13	1065	514/561.ccls.	USPAT; DERWENT	OR	ON	2007/04/06 15:17
L14	221	l13 and valine	USPAT; DERWENT	OR	ON	2007/04/06 15:18
L15	1219	424/439.ccls.	USPAT; DERWENT	OR	ON	2007/04/06 15:18
L16	64	l15 and valine	USPAT; DERWENT	OR	ON	2007/04/06 15:18

EAST Search History

S72	0	S64 and germall	US-PGPUB; USPAT; DERWENT	OR	ON	2007/04/02 20:25
S73	6	S64 and diazolidinyl	US-PGPUB; USPAT; DERWENT	OR	ON	2007/04/02 20:25
S74	150	S64 and (kf)	US-PGPUB; USPAT; DERWENT	OR	ON	2007/04/02 20:26
S75	67	S74 and siloxane	US-PGPUB; USPAT; DERWENT	OR	ON	2007/04/02 20:27
S76	62	S74 and urea	US-PGPUB; USPAT; DERWENT	OR	ON	2007/04/02 20:27
S77	1	improving adj albumin	US-PGPUB; USPAT; DERWENT	OR	ON	2007/04/04 15:26
S78	9	improving adj2 albumin	US-PGPUB; USPAT; DERWENT	OR	ON	2007/04/04 15:26
S79	14	improving adj3 albumin	US-PGPUB; USPAT; DERWENT	OR	ON	2007/04/04 15:29
S80	52055	valine	US-PGPUB; USPAT; DERWENT	OR	ON	2007/04/04 15:29
S81	1783	S80 and (free adj3 amino adj acid)	US-PGPUB; USPAT; DERWENT	OR	ON	2007/04/04 15:30
S82	699	S81 and (liver or hepatic or hepato?)	US-PGPUB; USPAT; DERWENT	OR	ON	2007/04/04 15:30
S83	103	S81 and (valine adj (levo or l))	US-PGPUB; USPAT; DERWENT	OR	ON	2007/04/04 15:33
S84	3	use adj2 valine	US-PGPUB; USPAT; DERWENT	OR	ON	2007/04/04 15:34
S85	3	use adj4 valine	US-PGPUB; USPAT; DERWENT	OR	ON	2007/04/04 15:34
S86	6	valine near (free adj2 amino adj acid)	US-PGPUB; USPAT; DERWENT	OR	ON	2007/04/04 15:53
S87	5	"265793"	JPO; DERWENT	OR	ON	2007/04/04 17:51

EAST Search History

S88	1	"6660771".pn.	JPO; DERWENT	OR	ON	2007/04/04 17:59
S89	740	l-valine	JPO; DERWENT	OR	ON	2007/04/04 17:52
S90	5092	l-valine	US-PGPUB; USPAT; DERWENT	OR	ON	2007/04/04 17:53
S91	1652	S90 and (albumin or alb)	US-PGPUB; USPAT; DERWENT	OR	ON	2007/04/04 17:53
S92	1647	S90 and (albumin or (alb near (g adj dl)))	US-PGPUB; USPAT; DERWENT	OR	ON	2007/04/04 17:53
S93	1651	S90 and (albumin or albumine or (alb near (g adj dl)))	US-PGPUB; USPAT; DERWENT	OR	ON	2007/04/04 17:54
S94	861	S90 and (albumin or albumine or (alb near (g adj dl)))	USPAT	OR	ON	2007/04/04 17:54
S95	1	"4259353".pn.	JPO; DERWENT	OR	ON	2007/04/04 18:00
S96	0	consist? adj essentially near l-valine	JPO; DERWENT	OR	ON	2007/04/04 18:01
S97	0	essentially near l-valine	JPO; DERWENT	OR	ON	2007/04/04 18:01
S98	2	essentially same l-valine	JPO; DERWENT	OR	ON	2007/04/04 18:01
S99	63	essentially same l-valine	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2007/04/04 18:01

Medical Encyclopedia

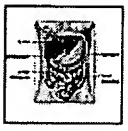
Other encyclopedia topics: A-Ag Ah-Ap Aq-Az B-Bk Bl-Bz C-Cg Ch-Co Cp-Cz D-Di Dj-Dz E-Ep Eq-Ez F G H-Hf Hg-Hz I-In Io-Iz J K L-Ln Lo-Lz M-Mf Mg-Mz N O P-Pl Pm-Pz Q R S-Sh Si-Sp Sq-Sz T-Tn To-Tz U V W X Y Z 0-9

Hepatic encephalopathy

Printer-friendly version E-mail to a friend

Contents of this page:

Illustrations



Digestive system organs

Alternative names *Return to top*

Hepatic coma; **Encephalopathy - hepatic**

Definition *Return to top*

Hepatic encephalopathy is brain and nervous system damage that occurs as a complication of liver disorders. It causes different nervous system symptoms including changes in reflexes, changes in consciousness, and behavior changes that can range from mild to severe.

Causes, incidence, and risk factors *Return to top*

Hepatic encephalopathy is caused by disorders affecting the liver. These include disorders that reduce liver function (such as cirrhosis or hepatitis) and conditions where blood circulation does not enter the liver. The exact cause of **hepatic encephalopathy** is unknown.

However, when the liver cannot properly metabolize and and turn poisons into harmless substances in the body, these poisons build up in the bloodstream. One substance believed to be particularly harmful to the central nervous system is ammonia, which is produced by the body when proteins are digested. Ammonia is normally made harmless by the liver. Many other substances may also accumulate in the body if the liver is not working well. They add to the damage done to the nervous system.

In people with otherwise stable liver disorders, **hepatic encephalopathy** may be triggered by gastrointestinal bleeding, eating too much protein, infections, renal disease, procedures that bypass blood past the liver, and electrolyte abnormalities (especially a decrease in potassium). A potassium decrease may result from vomiting, or treatments such as paracentesis or taking diuretics ("water pills").

Hepatic encephalopathy may also be triggered by any condition that results in alkalosis, **low** oxygen levels in the body, use of medications that suppress the central nervous system (such as barbiturates or benzodiazepine tranquilizers), surgery, and sometimes by co-occurring illness.

Disorders that mimic or mask symptoms of **hepatic encephalopathy** include alcohol intoxication, sedative overdose, complicated alcohol withdrawal, Wernicke-Korsakoff syndrome, subdural hematoma, meningitis, and metabolic abnormalities such as **low** blood glucose.

Hepatic encephalopathy may occur as an acute, potentially reversible disorder or as a chronic, progressive disorder associated with chronic liver disease.

Symptoms *Return to top*

- Changes in mental state, consciousness, behavior, personality
  - Forgetfulness
  - Confusion, disorientation
  - Delirium
  - Dementia
  - Changes in mood
  - Decreased alertness, daytime sleepiness
  - Decreased responsiveness
  - Coma
- Decreased self-care ability
- Deterioration of handwriting or loss of other small hand movements
- Muscle tremors
- Muscle stiffness
- Seizures (rare)
- Speech impairment
- Uncontrollable movement
- Dysfunctional movement
- Agitation

Signs and tests *Return to top*

Neurological symptoms may change. Coarse, "flapping" muscle tremor may be observed during voluntary movement, such as when the person attempts to hold the arms out in front of the body .

Mental status examination will be abnormal, particularly cognitive (thinking) tasks such as connecting numbers with lines.

Liver disease may be known or may be suspected, and signs of liver disease such as jaundice (yellow skin and eyes) and ascites (fluid collection in the abdomen) may be noted. Occasionally, there is a characteristic musty odor to the breath and the urine.

Blood tests may be nonspecific, or may show liver failure.

- Blood chemistry may show **low albumin**, high bilirubin, or other abnormalities.
- Serum ammonia levels are usually high.
- Prothrombin time may be prolonged and not correctable with Vitamin K.
- CT scan of the head may be normal, or may show general atrophy (loss of tissue).
- EEG (a reading of electrical activity in the brain) shows abnormalities.

Treatment *Return to top*

Hepatic encephalopathy is an acute medical condition that may become a medical emergency. Hospitalization is required.

The goals of treatment include life support, elimination or treatment of the causes, and removal or neutralization of ammonia and other toxins. Life support may include support of breathing or blood circulation, particularly if coma develops. The brain may swell, which can be life-threatening.

Causes must be identified and treated. Gastrointestinal bleeding must be stopped. The intestines must be emptied of blood. Blood breaks down into protein parts that are converted to ammonia. Treatment of infections, kidney failure, and electrolyte abnormalities (especially potassium) is important.

In patients with severe, repeated cases of **encephalopathy**, the patient may be told to reduce protein in the diet to lower ammonia production. However, dietary counseling is important, as too little protein in the diet can contribute to malnutrition. Specially formulated intravenous or tube feedings may be necessary for critically ill patients.

Lactulose may be given to prevent intestinal bacteria from creating ammonia, and as a laxative to evacuate blood from the intestines. Neomycin may also be used to reduce ammonia production by intestinal bacteria. Rifaximin, a new antibiotic, is also effective in **hepatic encephalopathy**.

Sedatives, tranquilizers, and any other medications that are broken down or released by the liver should be avoided if possible. Medications containing ammonium (including certain antacids) should also be avoided. Other medications and treatments may be recommended, with variable results.

Expectations (prognosis) *Return to top*

Acute **hepatic encephalopathy** may be correctable, while chronic forms of the disorder often keep getting worse. Both forms may result in irreversible coma and death. Approximately 80% (8 out of 10 patients) die if coma develops. Recovery and the risk of repeated cases are variable.

Complications *Return to top*

- Brain swelling
- Brain herniation

- Progressive, irreversible coma
- Permanent nervous system damage (to movement, sensation, or mental state)
- Increased risk of:
  - Sepsis
  - Respiratory failure
  - Cardiovascular collapse
  - Kidney failure
- Side effects of medications (see the specific medication)

Calling your health care provider *Return to top*

Call your health care provider if any change in mental state or other neurological problem occurs, particularly if there is a known or suspected liver disorder. **Hepatic encephalopathy** can rapidly get worse and become an emergency condition!

Prevention *Return to top*

Treating liver disorders may prevent some cases of **hepatic encephalopathy**. Avoiding heavy drinking and intravenous drug use can prevent many liver disorders.

If there are any neurological symptoms in a person with known or suspected liver disease, call for immediate medical attention.

Update Date: 10/13/2006

Updated by: Jenifer K. Lehrer, MD, Department of Gastroenterology, Frankford-Torresdale Hospital, Jefferson Health System, Philadelphia, PA.
Review provided by VeriMed Healthcare Network.

food

Also found in: Medical, Acronyms, Idioms, Columbia, Wikipedia, Hutchinson

0.07 sec.

food (fōōd)
n.

1. Material, usually of plant or animal origin, that contains or consists of essential body nutrients, such as carbohydrates, fats; proteins, vitamins, or minerals, and is ingested and assimilated by an organism to produce energy, stimulate growth, and maintain life.
2. A specified kind of nourishment: *breakfast **food**; plant **food**.*
3. Nourishment eaten in solid form: ***food** and drink.*
4. Something that nourishes or sustains in a way suggestive of physical nourishment: ***food** for thought; **food** for the soul.*

[Middle English fode, from Old English fōda; see pā- in Indo-European roots.]

Thesaurus

Legend: Synonyms | Related Words | Antonyms

Noun 1. food - any substance that can be metabolized by an organism to give energy and build tissue
nutrient

matter, substance - that which has mass and occupies space; "an atom is the smallest indivisible unit of matter"

vitellus, yolk - nutritive material of an ovum stored for the nutrition of an embryo (especially the yellow mass of a bird or reptile egg)

food - any solid substance (as opposed to liquid) that is used as a source of nourishment; "**food** and drink"

comfort **food** - **food** that is simply prepared and gives a sense of wellbeing; typically **food** with a high sugar or carbohydrate content that is associated with childhood or with home cooking

comestible, eatable, edible, pabulum, victual, victuals - any substance that can be used as **food**

fare - the **food** and drink that are regularly consumed

food product, foodstuff - a substance that can be used or prepared for use as **food**

aliment, alimentation, nourishment, nutriment, sustenance, victuals, nutrition - a source of materials to nourish the body

commissariat, provisions, viands, victuals, provender - a stock or supply of foods

feed, provender - **food** for domestic livestock

manna from heaven, miraculous **food**, manna - (Old Testament) **food** that God gave the Israelites during the Exodus

beverage, drinkable, potable, drink - any liquid suitable for drinking; "may I take your beverage order?"

water - a fluid necessary for the life of most animals and plants; "he asked for a drink of water"

soul **food** - **food** traditionally eaten by African-Americans in the South

chyme - a semiliquid mass of partially digested **food** that passes from the stomach through the pyloric sphincter into the duodenum

2. **food** - any solid substance (as opposed to liquid) that is used as a source of nourishment; "**food** and drink"

food, nutrient - any substance that can be metabolized by an organism to give energy and build tissue

leftovers - **food** remaining from a previous meal; "he had leftovers for dinner last night"

fresh **food**, fresh foods - **food** that is not preserved by canning or dehydration or freezing or smoking

convenience **food** - any packaged dish or **food** that can be prepared quickly and easily as by thawing or heating

chocolate - a **food** made from roasted ground cacao beans

baked goods - foods (like breads and cakes and pastries) that are cooked in an oven

meat - the flesh of animals (including fishes and birds and snails) used as **food**

alimentary paste, pasta - shaped and dried dough made from flour and water and sometimes egg

health **food** - any natural or prepared **food** popularly believed to promote good health

junk **food** - **food** that tastes good but is high in calories having little nutritional value

breakfast **food** - any **food** (especially cereal) usually served for breakfast

garden truck, green goods, green groceries, produce - fresh fruits and vegetable grown for the market

coconut, coconut meat - the edible white meat a coconut; often shredded for use in e.g. cakes and curries

dika bread - somewhat astringent paste prepared by grinding and heating seeds of the African wild mango; a staple **food** of some African peoples

fish - the flesh of fish used as **food**; "in Japan most fish is eaten raw"; "after the scare about foot-and-mouth disease a lot of people started eating fish instead of meat"; "they have a chef who specializes in fish"

seafood - edible fish (broadly including freshwater fish) or shellfish or roe etc

butter - an edible emulsion of fat globules made by churning milk or cream; for cooking and table use

yoghourt, yoghurt, yogurt - a custard-like **food** made from curdled milk

cheese - a solid **food** prepared from the pressed curd of milk

solid - a substance that is solid at room temperature and pressure

3. **food** - anything that provides mental stimulus for thinking
   - **food** for thought, intellectual nourishment
   - cognitive content, mental object, content - the sum or range of what has been perceived, discovered, or learned
   - pabulum - insipid intellectual nourishment

Mentioned in

cater
Clupea harangus
dish
feed
food coloring
food colouring
food fish
food product
food web
foodstuff
forage
nutrition
percoid
percoid fish
percoidean
provender
snapper
victuals
whiting

More results

References in classic literature

They contend that no **food** is necessary, nor do they eat; but any one of the most rudimentary intelligence must realize that **food** is a necessity to creatures having actual existence.
Thuvia, Maid of Mars by *Burroughs, Edgar Rice* **View in context**

We behold the face of nature bright with gladness, we often see superabundance of **food**; we do not see, or we forget, that the birds which are idly singing round us mostly live on insects or seeds, and are thus constantly destroying life; or we forget how largely these songsters, or their eggs, or their nestlings, are destroyed by birds and beasts of prey; we do not always bear in mind, that though **food** may be now superabundant, it is not so at all seasons of each recurring year.
The Origin of Species by *Darwin, Charles* **View in context**

The girl was exhausted from loss of sleep, from lack of **food** and drink, and from the nervous reaction consequent to the terrifying experiences through which she had passed.
The Chessmen of Mars by *Burroughs, Edgar Rice* **View in context**

More results

Dictionary/thesaurus browser

fontanelle
Fontange
Fontanne
Fontenoy
Fonteyn
fontina
Foochow
▸ **food**
food additive
food allergy
Food and Agriculture Organization

Full browser

- Foobar
- Foobar
- Foobar
- Foochow dialect
- Foochow language
- Foochowese
- Foochowese (linguistics)
- FOOCL
- FOOCLMAO
- FOOCLOL
- **Food** & Drug Administration
- **Food** & Drug Administration
- **Food** & Drug Administration (USA)
- **Food** & Drugs Act
- **Food** & Nutrition

Food and Agriculture Organization of the United Nations
Food and Drug Administration
food bank
food cache

■ Foobar (disambiguation)
■ Foobar 2000
■ Foobar2000
■ Foobar2k
■ FooBillard
■ Fooblitzky
● FOOC
■ Foocamp
■ Foochka
● Foochow
■ Foochow
Foochow
■ Foochow

● FOOCROTFLMAO
▶ **food**
■ **Food** & Agriculture Organisation
Food & Agriculture Organisation
■ **Food** & Agriculture Organisation
■ **Food** & Agriculture Organization
Food & Agriculture Organization
■ **Food** & Agriculture Organization
● **Food** & Beverage Institute (Culinary Institute of America)
■ **Food** & drink in Birmingham

Conference & Expo
● **Food** & Process Engineering Institute
■ **Food** & Water Watch
■ **Food** & Wine
Food & Wine
Food & Wine
■ **Food** & Wine
■ **Food** & Wine Classic
■ **Food** & Wine Magazine
■ **Food** (Kirby)
■ **Food** (record label)
■ **Food** 4 Less

```
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'CT' IS NOT A VALID FIELD CODE
L1            0 VALINE/CT

=> s valine/cn
L2            2 VALINE/CN

=> d 1-2

L2   ANSWER 1 OF 2  REGISTRY  COPYRIGHT 2007 ACS on STN
RN   516-06-3  REGISTRY
ED   Entered STN:  16 Nov 1984
CN   Valine  (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN   DL-Valine
CN   Valine, DL- (8CI)
OTHER NAMES:
CN   (±)-Valine
CN   (RS)-Valine
CN   DL-α-Aminoisovaleric acid
CN   NSC 9755
DR   186023-77-8
MF   C5 H11 N O2
CI   COM
LC   STN Files:   ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN*, BIOSIS, CA, CAOLD,
       CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM,
       DETHERM*, GMELIN*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, NAPRALERT,
       PIRA, PROMT, SPECINFO, TOXCENTER, TULSA, USPAT2, USPATFULL
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     Other Sources:   DSL**, EINECS**, TSCA**
         (**Enter CHEMLIST File for up-to-date regulatory information)
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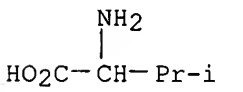

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**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

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            1771 REFERENCES IN FILE CAPLUS (1907 TO DATE)
               2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

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RN   72-18-4  REGISTRY
ED   Entered STN:  16 Nov 1984
CN   L-Valine  (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN   Valine, L- (8CI)
OTHER NAMES:
CN   (2S)-2-Amino-3-methylbutanoic acid
CN   (S)-α-Amino-β-methylbutyric acid
CN   (S)-2-Amino-3-methylbutanoic acid
CN   (S)-2-Amino-3-methylbutyric acid
CN   (S)-Valine
CN   2-Amino-3-methylbutanoic acid
CN   Butanoic acid, 2-amino-3-methyl-, (S)-
CN   L-(+)-α-Aminoisovaleric acid
CN   L-α-Amino-β-methylbutyric acid
CN   NSC 76038
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CN **Valine**
FS STEREOSEARCH
DR 7004-03-7, 16872-32-5
MF C5 H11 N O2
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOSIS, BIOTECHNO, CA, CABA, CAOLD, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DRUGU, EMBASE, GMELIN*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, PATDPASPC, PIRA, PROMT, PS, RTECS*, SPECINFO, SYNTHLINE, TOXCENTER, TULSA, USAN, USPAT2, USPATFULL
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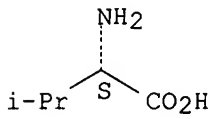
Other Sources: DSL**, EINECS**, TSCA**, WHO
(**Enter CHEMLIST File for up-to-date regulatory information)

Absolute stereochemistry. Rotation (+).



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31040 REFERENCES IN FILE CAPLUS (1907 TO DATE)
4 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

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L3 1 L-VALINE/CN

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L2             2 S VALINE/CN
L3             1 S L-VALINE/CN

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                DEL SEL Y
                SEL L3 1 RN
L4             1 S E1/RN
                SET TERMSET LOGIN

     FILE 'SPECINFO' ENTERED AT 14:21:04 ON 06 APR 2007
L5             2 S L4

     FILE 'CAPLUS' ENTERED AT 14:21:16 ON 06 APR 2007

=> s l2 <> or valine?

   SmartSELECT INITIATED
New TRANSFER and ANALYZE Commands Now Available
See HELP TRANSFER and HELP ANALYZE for Details


COST IN U.S. DOLLARS                          SINCE FILE      TOTAL
                                                   ENTRY    SESSION
FULL ESTIMATED COST                                0.47      18.61

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USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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SET SMARTSELECT ON
SET COMMAND COMPLETED

SEL L2 1-
L6          SEL L2 1- CHEM :       22 TERMS

SET SMARTSELECT OFF
SET COMMAND COMPLETED


COST IN U.S. DOLLARS                          SINCE FILE      TOTAL
                                                   ENTRY    SESSION
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S L6 OR VALINE?


         55779 VALINE?
L8       60042 L7 OR VALINE?

=> s l8 and (albumin or albumine)
```

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        130024 ALBUMIN
         88048 ALBUMINS
        153276 ALBUMIN
                 (ALBUMIN OR ALBUMINS)
            50 ALBUMINE
             9 ALBUMINES
            59 ALBUMINE
                 (ALBUMINE OR ALBUMINES)
L9        1274 L8 AND (ALBUMIN OR ALBUMINE)

=> s l9 and (albuminemia or hypoalbuminemia or proteinemia or (protein (l)
proteinemia) or (albumin? (l) hypalbuminemia))
            83 ALBUMINEMIA
          1218 HYPOALBUMINEMIA
           329 PROTEINEMIA
            10 PROTEINEMIAS
           338 PROTEINEMIA
                 (PROTEINEMIA OR PROTEINEMIAS)
       1991015 PROTEIN
       1391810 PROTEINS
       2317021 PROTEIN
                 (PROTEIN OR PROTEINS)
           329 PROTEINEMIA
            10 PROTEINEMIAS
           338 PROTEINEMIA
                 (PROTEINEMIA OR PROTEINEMIAS)
           162 PROTEIN (L) PROTEINEMIA
        157601 ALBUMIN?
            10 HYPALBUMINEMIA
             4 ALBUMIN? (L) HYPALBUMINEMIA
L10          12 L9 AND (ALBUMINEMIA OR HYPOALBUMINEMIA OR PROTEINEMIA OR (PROTEI
                N (L) PROTEINEMIA) OR (ALBUMIN? (L) HYPALBUMINEMIA))

=> focus
PROCESSING COMPLETED FOR L10
L11           12 FOCUS L10 1-

=> d ibib abs 1-12 hitstr

L11  ANSWER 1 OF 12  CAPLUS  COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER:         2000:618041  CAPLUS
DOCUMENT NUMBER:          133:294553
TITLE:                    Synthesis rate of plasma albumin is a good
                          indicator of liver albumin synthesis in
                          sepsis
AUTHOR(S):                Ruot, Benoit; Breuille, Denis; Rambourdin, Fabienne;
                          Bayle, Gerard; Capitan, Pierre; Obled, Christiane
CORPORATE SOURCE:         Centre de Recherche en Nutrition Humaine d'Auvergne
                          and Unite d'Etude du Metabolisme Azote, Institut
                          National de la Recherche Agronomique Theix, Saint
                          Genes Champanelle, 63 122, Fr.
SOURCE:                   American Journal of Physiology (2000), 279(2, Pt. 1),
                          E244-E251
                          CODEN: AJPHAP; ISSN: 0002-9513
PUBLISHER:                American Physiological Society
DOCUMENT TYPE:            Journal
LANGUAGE:                 English
AB   Plasma albumin is well known to decrease in response to
     inflammation.  The rate of albumin synthesis from both liver and
     plasma was measured in vivo by use of a large dose of L-[2H3-14C]
     valine in rats injected i.v. with live Escherichia coli and in
     pair-fed control rats during the acute-phase period (2 days
     postinfection).  The plasma albumin concentration was reduced by 50% in
     infected rats compared with pair-fed animals.  Infection induced a fall in
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both liver **albumin** mRNA levels and **albumin** synthesis relative to total liver protein synthesis. However, absolute liver **albumin** synthesis rate (ASR) was not affected by infection. In plasma, **albumin** fractional synthesis rate was increased by 50% in infected animals compared with pair-fed animals. The **albumin** ASR estimated in the plasma was similar in the two groups. These results suggest that **hypoalbuminemia** is not due to reduced **albumin** synthesis during sepsis. Moreover, liver and plasma **albumin** ASR were similar. Therefore, **albumin** synthesis measured in the plasma is a good indicator of liver **albumin** synthesis.

REFERENCE COUNT: 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 2 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:222163 CAPLUS
DOCUMENT NUMBER: 137:153163
TITLE: The response of liver **albumin** synthesis to infection in rats varies with the phase of the inflammatory process
AUTHOR(S): Ruot, Benoit; Bechereau, Fabienne; Bayle, Gerard; Breuille, Denis; Obled, Christiane
CORPORATE SOURCE: Centre de Recherche en Nutrition Humaine d'Auvergne and Unite de Nutrition et du Metabolisme des Proteines, Institut National de la Recherche Agronomique, Saint Genes Champanelle, 63 122, Fr.
SOURCE: Clinical Science (2002), 102(1), 107-114
CODEN: CSCIAE; ISSN: 0143-5221
PUBLISHER: Portland Press Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB To discriminate between the effects of infection and of anorexia associated with infection, liver **albumin** synthesis was measured in well-fed rats, in rats injected with live Escherichia coli and in pair-fed rats at different stages of the inflammatory response (1, 6 and 10 days after infection) using a large dose of L-[1-14C]**valine**. **Albuminemia** and **albumin** mRNA levels were unchanged following food restriction. However, absolute **albumin** synthesis was decreased in pair-fed rats compared with control animals after 1 day of food restriction, and had returned to normal values by day 10 when food intake was restored. Infection was characterized by a decrease in the plasma **albumin** concentration (35%, 45% and 28% as compared with pair-fed rats at 1, 6 and 10 days after infection resp.). **Albumin** mRNA levels and relative **albumin** synthesis were reduced in infected rats as compared with both control and pair-fed animals at all stages of infection. However, during the early acute response, the **albumin** absolute synthesis rate was similar in infected rats and pair-fed rats, indicating no specific effect of infection at this stage. Later in the course of infection, the amount of **albumin** synthesized by the liver was lower in infected than in pair-fed rats, and **hypoalbuminemia** was probably maintained due to a lack of stimulation of synthesis despite increased food intake.
REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 3 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:13974 CAPLUS
DOCUMENT NUMBER: 138:236265
TITLE: Idiopathic **hypoalbuminemia** explained by reduced synthesis rate and an increased catabolic rate
AUTHOR(S): Prinsen, Berthil H. C. M. T.; Kaysen, George A.; Klomp, Leo W. J.; de Boer, Jose; Barrett, P. Hugh R.; Thornalley, Paul J.; Battah, Sinan; Berger, Ruud; Rabelink, Ton J.; de Sain-van der Velden, Monique G.

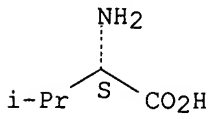
M.
CORPORATE SOURCE: Department of Vascular Medicine and Metabolism, University Medical Center Utrecht, Neth.
SOURCE: Clinical Biochemistry (2002), 35(7), 545-553
CODEN: CLBIAS; ISSN: 0009-9120
PUBLISHER: Elsevier Science Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB To determine the contribution of **albumin** synthetic and catabolic rates to steady state levels in a patient with idiopathic **hypoalbuminemia**. Using L-[1-13C] Val, both FSR (fractional synthesis rate) as well as FCR (fractional catabolic rate) were studied. Human **albumin** cDNA anal. and determination of the exact **albumin** mass by electrospray mass spectrometry were performed. Compared with controls, plasma **albumin** concentration in the patient was reduced (6.7 vs. 37.0 ± 2.6 g/L). **Albumin** FSR (= FCR in steady state) was increased compared to controls. The ASR (absolute synthesis rate) of **albumin** was decreased based on the enrichment in plasma Val and KIV, but estimated to be normal based on VLDL apoB100 at plateau compared to controls. Direct estimation of **albumin** FCR rejected the latter. No mutation was found in the transcribed region of **albumin** gene. The exact mass of **albumin** (66.493 Da) was not different from controls. Conclusion: The **hypoalbuminemia** was a result of accelerated clearance of **albumin** from plasma in addition to defective **albumin** synthesis. This study also shows that the chosen method of the precursor pool could lead to misinterpretation of data in hepatic protein synthesis.

IT **72-18-4, L-Valine**, biological studies
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); BIOL (Biological study); USES (Uses)
(serum Val in **hypoalbuminemia** by reduced synthesis rate and increased catabolic rate)

RN 72-18-4 CAPLUS
CN L-Valine (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 4 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:818893 CAPLUS
DOCUMENT NUMBER: 140:3736
TITLE: Increased **albumin** and fibrinogen synthesis rate in patients with chronic renal failure
AUTHOR(S): Prinsen, Berthil H. C. M. T.; Rabelink, Ton J.; Beutler, Jaap J.; Kaysen, George A.; De Boer, Jose; Boer, Walther H.; Hagen, E. Christiaan; Berger, Ruud; De Sain-Van der Velden, Monique G. M.
CORPORATE SOURCE: Department of Vascular Medicine and Metabolism, Department of Metabolic Diseases, University Medical Center Utrecht, Utrecht, Neth.
SOURCE: Kidney International (2003), 64(4), 1495-1504
CODEN: KDYIA5; ISSN: 0085-2538
PUBLISHER: Blackwell Publishing, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Background. **Hypoalbuminemia** and hyperfibrinogenemia are

frequently observed in patients with chronic renal failure (CRF) and are both associated with cardiovascular diseases. The mechanisms responsible for **hypoalbuminemia** and hyperfibrinogenemia in CRF are unknown. Methods. In the present study, both **albumin** and fibrinogen kinetics were measured in vivo in predialysis patients (N = 6), patients on peritoneal dialysis (N = 7) and control subjects (N = 8) using L-[1-13C]-**valine**. Results. Plasma **albumin** concentration was significantly lower in patients on peritoneal dialysis compared to control subjects ($P < 0.05$). Plasma fibrinogen was significantly increased in both predialysis patients ($P < 0.01$) as well as patients on peritoneal dialysis ($P < 0.001$) in comparison to control subjects. In contrast to **albumin**, fibrinogen is only lost in peritoneal dialyzate and not in urine. The absolute synthesis rates (ASR) of **albumin** and fibrinogen were increased in patients on peritoneal dialysis (ASR **albumin**, 125 ± 9 mg/kg/day vs. 93 ± 9 mg/kg/day, $P < 0.05$; ASR fibrinogen, 45 ± 4 mg/kg/day vs. 29 ± 3 mg/kg/day, $P < 0.01$) compared to control subjects. **Albumin** synthesis is strongly correlated with fibrinogen synthesis ($r2 = 0.665$, $P < 0.0001$, N = 21). In this study, the observed **hypoalbuminemia** in patients on peritoneal dialysis is likely not explained by malnutrition, inadequate dialysis, inflammation, metabolic acidosis, or insulin resistance. We speculate that peritoneal **albumin** loss is of relevance. Conclusion. Synthesis rate of **albumin** and fibrinogen are coordinately up-regulated. Both **albumin** and fibrinogen are lost in peritoneal dialysis fluid. To compensate protein loss, **albumin** synthesis is up-regulated, but the response, in contrast to predialysis patients, does not fully correct plasma **albumin** concns. in peritoneal dialysis patients. The increase in fibrinogen synthesis introduces an independent risk factor for atherosclerosis, since plasma fibrinogen pool is enlarged.

REFERENCE COUNT: 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 5 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2000:424390 CAPLUS
DOCUMENT NUMBER: 133:276282
TITLE: Randomized double-blind trial of oral essential amino acids for dialysis-associated **hypoalbuminemia**
AUTHOR(S): Eustace, Joseph A.; Coresh, Josef; Kutchey, Chris; Te, Purita L.; Gimenez, Luis F.; Scheel, Paul J., Jr.; Walser, Mackenzie
CORPORATE SOURCE: Division of Nephrology, Johns Hopkins University School of Medicine, Baltimore, MD, USA
SOURCE: Kidney International (2000), 57(6), 2527-2538
CODEN: KDYIA5; ISSN: 0085-2538
PUBLISHER: Blackwell Science, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

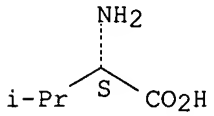
AB Background: **hypoalbuminemia** is associated with substantial morbidity and mortality in dialysis patients. Methods: Subjects with a mean three-month pre-study serum **albumin** of 3.8 g/dL or less and who demonstrated ≥90% compliance during a two-week run-in period were randomized to 3.6 g of essential amino acids (EAAs) or placebo three times daily with meals for three months. Randomization was stratified by dialysis modality and by severity of the **hypoalbuminemia**. The primary study outcome was change in the average of three monthly serum **albumin** measurements between baseline and follow-up. Results: Fifty-two patients were randomized; 47 patients (29 hemodialysis and 18 peritoneal dialysis) met the predetd. primary anal. criteria. The mean compliance rates averaged 75, 70, and 50% at months 1, 2, and 3, resp., and were similar for EAAs and placebo. Serum **albumin** in the hemodialysis patients, EAA vs. placebo, improved [(mean ± SE) 0.22 ± 0.09 g/dL, $P = 0.02$]. Changes in peritoneal dialysis patients were not significant (0.01 ± 0.15 g/dL), but approached significance for the

total study group (0.14 ± 0.08 g/dL, P = 0.08). Patients in the very low **albumin** strata (<3.5 g/dL) improved more than those in the low **albumin** strata (3.5 to 3.8 g/dL, P < 0.01). There was a significant correlation (r = 0.83, P = 0.001) within the hemodialysis EAA group between the baseline C-reactive protein level and improvement in serum **albumin**. Improvements were also seen in grip strength and SF-12 mental health score, but not in serum amino acid levels, SF-12 phys. health score, or anthropometric measurements. Conclusions. Oral EAAs induce a significant improvement in the serum **albumin** concentration in hemodialysis but not peritoneal dialysis subjects. Further study of their long-term effects on morbidity and mortality is warranted.

IT **72-18-4, Valine**, biological studies
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(randomized double-blind trial of oral essential amino acids for dialysis-associated **hypoalbuminemia**)

RN 72-18-4 CAPLUS
CN L-Valine (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



REFERENCE COUNT: 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 6 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:1058464 CAPLUS
DOCUMENT NUMBER: 144:164114
TITLE: Oral administration of branched-chain amino acids activates the mTOR signal in cirrhotic rat liver
AUTHOR(S): Matsumura, Tsuyoshi; Morinaga, Yoshihiro; Fujitani, Shoji; Takehana, Kenji; Nishitani, Shinobu; Sonaka, Ichiro
CORPORATE SOURCE: Pharmaceutical Research Laboratories, Ajinomoto Co., Inc., 1-1, Suzuki-cho, Kawasaki-ku, Kawasaki-shi, Kanagawa, 210-8681, Japan
SOURCE: Hepatology Research (2005), 33(1), 27-32
CODEN: HPRSFM; ISSN: 1386-6346
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

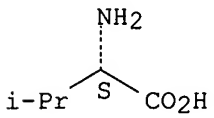
AB BCAA granules (a mixture of branched-chain amino acids) have been used to reverse the **hypoalbuminemia** of decompensated liver cirrhotic patients in Japan. Our previous studies showed that BCAA promoted **albumin** secretion through the mTOR signal transduction pathway in rat primary hepatocyte culture [Ijichi C, Matsumura T, Tsuji T, Eto Y. Branched-chain amino acids promote **albumin** synthesis in rat primary hepatocytes through the mTOR signal transduction system. Biochem Biophys Res Commun 2003;303:59-64]. However, the mTOR-activating effect of BCAA in the exptl. cirrhotic animals presenting with **hypoalbuminemia** has not yet been examined The purpose of this study is to assess whether oral administration of BCAA induces mTOR activity in the livers of normal rats and CCl4-induced cirrhotic rats (CCl4 rats). Biochem. anal. of liver exts. isolated from several rats showed that oral administration of BCAA (0.75 g/kg body weight (BW)) induced phosphorylation of 4E-BP1 and stimulated the enzymic activity of p70 S6K. Both of these mols. act downstream of mTOR. From the results, we conclude that orally administrated BCAA augments **albumin** synthesis in the liver, not

only by supplementation of material substrates for protein synthesis, but also by induction of an mTOR signal that is critical for translational initiation. Furthermore, we conclude that induction of mTOR signaling is one of the major pharmacol. mechanisms by which BCAA granules reverse the **hypoalbuminemia** of cirrhotic patients.

IT **72-18-4, Valine**, biological studies
RL: FFD (Food or feed use); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(leucine induced phosphorylation of 4E-BP1, stimulated p70 S6K enzymic activity than isoleucine, **valine** in liver of normal **hypoalbuminemia** rat)

RN 72-18-4 CAPLUS
CN L-Valine (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

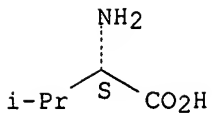
L11 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:462914 CAPLUS
DOCUMENT NUMBER: 143:247587
TITLE: Clinical comparison of branched-chain amino acid (-Leucine, -Isoleucine, -**Valine**) granules and oral nutrition for hepatic insufficiency in patients with decompensated liver cirrhosis (LIV-EN study)
AUTHOR(S): Sato, Shunichi; Watanabe, Akiharu; Muto, Yasutoshi; Suzuki, Kazuyuki; Kato, Akinobu; Moriwaki, Hisataka; Kato, Masahiko; Nakamura, Teiji
CORPORATE SOURCE: Iwate Medical University, 19-1 Uchimaru, Morioka, 020-8505, Japan
SOURCE: Hepatology Research (2005), 31(4), 232-240
CODEN: HPRSFM; ISSN: 1386-6346
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB This multicenter study compared the effects of branched-chain amino acid granules (Livact Granules, LIV) and an enteral nutrient for chronic hepatic failure (Aminoleban EN, EN) on serum **albumin** in patients with decompensated liver cirrhosis. This study enrolled "patients with decompensated liver cirrhosis associated with hepatic encephalopathy who were suffering from **hypoalbuminemia** in spite of adequate food intake," a condition for which both drugs are indicated. Enrolled patients were randomized to the 2 groups according to the central registration method. This study continued for 24 wk. Selected foods were supplied to each patient in principle so that caloric and protein intakes were standardized between the 2 groups. A total of 281 patients were enrolled. LIV was not inferior to EN concerning the primary efficacy endpoint changes in serum **albumin**.

IT **72-18-4, L-Valine**, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(branched-chain amino acid granules and oral nutrition for hepatic insufficiency in patients with decompensated liver cirrhosis)

RN 72-18-4 CAPLUS
CN L-Valine (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1998:490515 CAPLUS
DOCUMENT NUMBER: 129:113563
TITLE: Supplement for dialysis patients
INVENTOR(S): Walser, Mackenzie
PATENT ASSIGNEE(S): Walser, Mackenzie, USA
SOURCE: PCT Int. Appl., 11 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

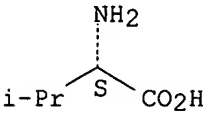
PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 9830217	A1	19980716	WO 1998-US14		19980105
W: AU, CA, JP, TR, US					
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE					
AU 9858135	A	19980803	AU 1998-58135		19980105
CA 2317038	A1	19990715	CA 1998-2317038		19980313
CA 2317038	C	20061017			
WO 9934813	A1	19990715	WO 1998-US3815		19980313
W: AU, CA, JP, TR, US					
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE					
AU 9868633	A	19990726	AU 1998-68633		19980313
AU 751556	B2	20020822			
EP 1044017	A1	20001018	EP 1998-914229		19980313
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI					
TR 200001896	T2	20001221	TR 2000-200001896		19980313
JP 2002500191	T	20020108	JP 2000-527261		19980313
US 6713501	B1	20040330	US 2000-582819		20000821
PRIORITY APPLN. INFO.:			US 1997-34233P	P	19970106
			WO 1998-US14	W	19980105
			WO 1998-US3815	W	19980313

AB Disclosed is a tablet diet supplement for administration to a dialysis patient comprising a mixture of L-histidine, L-isoleucine, L-leucine, L-lysine, L-methionine, L-phenylalanine, L-tryptophan, L-tyrosine and **L-valine**, for preventing and/or correcting **hypoalbuminemia** in a patient on dialysis.

IT **72-18-4, L-Valine**, biological studies
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(amino acid supplements for dialysis patients)

RN 72-18-4 CAPLUS
CN L-Valine (CA INDEX NAME)

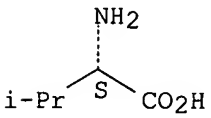
Absolute stereochemistry. Rotation (+).



REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 9 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1997:738860 CAPLUS
DOCUMENT NUMBER: 128:33311
TITLE: Reduced kidney branched chain aminotransferase expression in puromycin aminonucleoside-induced nephrotic syndrome
AUTHOR(S): Ascencio, Claudia; Torres, Nimbe; Sandoval, Rosa Laura; Cruz, Cristino; Pedraza-Chaverri, Jose; Tovar, Armando R.
CORPORATE SOURCE: Departmento de Fisiologia de la Nutricion, Instituto Nacional de la Nutricion Salvador Zubiran, Tlalpan, 14000, Mex.
SOURCE: Life Sciences (1997), 61(24), 2407-2415
CODEN: LIFSAK; ISSN: 0024-3205
PUBLISHER: Elsevier Science Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Injection of puromycin aminonucleoside to rats induces nephrotic syndrome characterized by **hypoalbuminemia**, proteinuria and hypercholesterolemia. In these rats, a low protein diet (6% casein diet) increased serum **albumin** by 26.3%, decreased proteinuria by 39% and reduced total cholesterol by 32%. Branched chain aminotransferase activity in kidney mitochondria of nephrotic rats fed 20 or 6% casein diet decreased by 30 and 24% with respect to their pair-fed groups and it was not modified by the protein content of the diet. Mitochondrial branched chain aminotransferase mRNA expression decreased by 67.3 and 72.5% in nephrotic rats fed 20 and 6% casein diet in comparison to their pair-fed groups. Total serum branched chain amino acids concentration (leucine, isoleucine, **valine**) in nephrotic rats was 30% higher than their pair-fed groups and it was associated with a decrease in the branched chain aminotransferase activity and mRNA expression suggesting that the catabolism of branched chain amino acid is reduced to conserve body nitrogen.
IT **72-18-4**, **L-Valine**, biological studies
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(reduced kidney branched chain aminotransferase expression in puromycin aminonucleoside-induced nephrotic syndrome and effect of low-protein diet in relation to)
RN 72-18-4 CAPLUS
CN L-Valine (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 10 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:511749 CAPLUS
DOCUMENT NUMBER: 143:266114
TITLE: Pretreatment of starved rats with ornithine α-ketoglutarate: effects on hepatic mRNA levels and plasma concentrations of three liver-secreted proteins
AUTHOR(S): Segaud, Frederic; Lardeux, Bernard; Alexandre-Gouabau,

Marie-Cecile; Bleiberg-Daniel, Fanny; Nakib, Samir; Cynober, Luc; Moinard, Christophe

CORPORATE SOURCE: Laboratoire de Biologie de la Nutrition EA 2498, Faculte de Pharmacie, Paris, Fr.

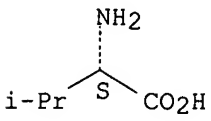
SOURCE: Nutrition (New York, NY, United States) (2005), 21(6), 732-739
CODEN: NUTRER; ISSN: 0899-9007
PUBLISHER: Elsevier Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Ornithine α-ketoglutarate (OKG) displays anabolic properties at the hepatic level, but the mechanisms involved remain unclear. This study investigated in vivo the ability of OKG to modulate hepatic gene expression of 3 liver-secreted proteins: **albumin**, transthyretin, and retinol binding protein. One hundred eighty rats were fed for 5 d with a balanced regimen enriched with OKG (5 g · kg-1 · d-1) or an isonitrogenous mixture (alanine, glycine, and serine). Hepatic mRNA levels and plasma concns. of the 3 proteins studied were determined at the end of the nutrition period and after 1, 2, and 3 d of food deprivation. Results were compared by anal. of variance and Bonferroni-Dunn tests. At the end of the nutrition period, hepatic mRNA levels and plasma concns. of the 3 proteins were not modified by OKG supplementation. However, OKG largely increased mRNA levels of **albumin**, transthyretin, and retinol binding protein on the first day of starvation compared with control animals (+68%, +64% and +51%, resp.; $P < 0.01$ vs. control). OKG precociously increased **albuminemia** (on day 2) but had no effect on plasma concns. of transthyretin and retinol binding protein. Neither regulation of polyamine hepatic concentration nor alteration in hepatic amino acid content seemed to be implicated in these actions. This study is the first to demonstrate that OKG regulates in vivo liver gene expression during acute malnutrition by modulating hepatic mRNA levels.

IT **72-18-4**, **L-Valine**, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(hepatic; effects of ornithine α-ketoglutarate pretreatment of starved rats on hepatic mRNA levels and plasma concns. of liver-secreted proteins)

RN 72-18-4 CAPLUS
CN L-Valine (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2001:334241 CAPLUS
DOCUMENT NUMBER: 135:194967

TITLE: Metabolic effects of intraportal nutrition in humans

AUTHOR(S): Bozzetti, Federico; Baticci, Fabio; Cozzaglio, Luca; Biasi, Salvatore; Facchetti, Giorgio

CORPORATE SOURCE: Unit of Clinical Analysis and Microbiology, Ist. Naz. Studio Cura Tumori, Milan, 20133, Italy

SOURCE: Nutrition (New York, NY, United States) (2001), 17(4), 292-299
CODEN: NUTRER; ISSN: 0899-9007
PUBLISHER: Elsevier Science Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

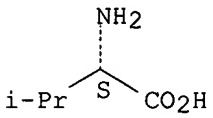
AB The metabolic effects of i.v. nutrition through the portal (PN) or systemic (SN) peripheral vein were studied in 20 patients given PN or SN nutrition after colorectal surgery. The daily regimen included 900 kcal and 100 g amino acids (AA). Visceral proteins and hepatic enzymes were measured on days 0, 1, 3, 5, and 7, and blood plasma arteriovenous differences and limb flux of AA were measured on days 0, 3, and 7; urinary N and 3-methylhistidine were analyzed daily. Blood serum **albumin** levels on day 7 were still depressed in SN and fully restored in PN patients. Prealbumin levels increased in the PN group only. Plasma levels of glutamine and asparagine were higher in PN than in SN patients. SN patients had more neg. limb-muscle balance of **valine** and tyrosine, whereas PN patients had higher muscle release of citrulline and taurine. Thus, short-term PN is safe and has some metabolic benefits: it accelerates recovery from post-operative **hypoalbuminemia** and hypoprealbuminemia and is associated with higher plasma level of glutamine and plasma AA patterns that are closer to normal. PN blunts the catabolic responses of the muscles decreases the loss of proteins and release of some AA involved in hepatic gluconeogenesis.

IT **72-18-4, L-Valine,** biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(metabolic effects of intraportal and systemic peripheral venous parenteral nutrition in patients after colorectal surgery)

RN 72-18-4 CAPLUS

CN L-Valine (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 12 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1998:272406 CAPLUS

DOCUMENT NUMBER: 129:79970

TITLE: Sustained modifications of protein metabolism in various tissues in a rat model of long-lasting sepsis

AUTHOR(S): Breuille, Denis; Arnal, Maurice; Rambourdin, Fabienne; Bayle, Gerard; Levieux, Didier; Obled, Christiane

CORPORATE SOURCE: Centre de Recherches Nestle, Lausanne, CH1000/26, Switz.

SOURCE: Clinical Science (1998), 94(4), 413-423
CODEN: CSCIAE; ISSN: 0143-5221

PUBLISHER: Portland Press Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Sepsis was induced in rats by an i.v. injection of live bacteria. Infected and pair-fed animals were studied before the infection, in an acute septic phase (day 2 post-infection), in a chronic septic phase (day 6) and in a late septic phase (day 10). Protein synthesis rates were measured in vivo after administration of a flooding dose of L-[1-13C] **valine**. During the acute phase, muscle protein loss associated with infection resulted from both a decrease in protein synthesis and an increase in proteolysis. During the chronic phase and the late phase, the increase of proteolysis in infected rats as compared with pair-fed animals persisted, worsening muscle atrophy. Skin protein synthesis rates were not significantly modified by infection. However, skin protein content decreased 6 and 10 days after infection, suggesting an increased proteolysis in response to sepsis. Protein synthesis in liver of infected

rats was twice that of pair-fed animals. Liver protein synthesis remained elevated in infected rats compared with pair-fed animals until day 10. **Hypoalbuminemia** and high plasma concns. of fibrinogen were evident at all periods studied. α2-Macroglobulin and α1-acid glycoprotein reached peak concns. during the acute phase (concns. increased 50 times in infected rats). On day 10, the levels of these proteins were still about 12-fold higher. Protein synthesis rates were significantly increased in the digestive tract and lung of infected rats compared with pair-fed groups on days 2 and 6, but were similar in the two groups on day 10 postinfection. The fractional protein synthesis rate was increased 3-fold over the entire exptl. period in the spleen. The results show that sepsis stimulates protein synthesis in various tissues over a long time, and that skin, like muscle, can provide amino acids to the rest of the body.

REFERENCE COUNT: 52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L2             2 S VALINE/CN
L3             1 S L-VALINE/CN

     FILE 'REGISTRY' ENTERED AT 14:21:00 ON 06 APR 2007
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                SEL L3 1 RN
L4             1 S E1/RN
                SET TERMSET LOGIN

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L5             2 S L4

     FILE 'CAPLUS' ENTERED AT 14:21:16 ON 06 APR 2007

     FILE 'REGISTRY' ENTERED AT 14:21:41 ON 06 APR 2007
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                SET SMARTSELECT OFF

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L7         59908 S L6
L8         60042 S L7 OR VALINE?
L9          1274 S L8 AND (ALBUMIN OR ALBUMINE)
                E HYPOALBUMINEMIA+ALL/CT
                E PROTEINEMIA+ALL/CT
                E HYPOALBUMINEMIA+ALL/CT
L10           12 S L9 AND (ALBUMINEMIA OR HYPOALBUMINEMIA OR PROTEINEMIA OR (PRO
L11           12 FOCUS L10 1-

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          21910 CIRRHOSIS
              1 CIRRHOSISES
          21910 CIRRHOSIS
                  (CIRRHOSIS OR CIRRHOSISES)
         559048 LIVER
          36681 LIVERS
         562097 LIVER
                  (LIVER OR LIVERS)
         170283 INFLAMMATION
           2047 INFLAMMATIONS
         171098 INFLAMMATION
                  (INFLAMMATION OR INFLAMMATIONS)
            635 LIVER INFLAMMATION
                  (LIVER(W)INFLAMMATION)
          21981 ?CIRRHOSIS
         123963 HEPATIC
             42 HEPATICS
         123994 HEPATIC
                  (HEPATIC OR HEPATICS)
         559048 LIVER
          36681 LIVERS
         562097 LIVER
                  (LIVER OR LIVERS)
           1190 HEPATO
         943344 DISEASE
         255213 DISEASES
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                (DISEASE OR DISEASES)
       339732 CONDITION
      1718407 CONDITIONS
      1990973 CONDITION
                (CONDITION OR CONDITIONS)
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          433 INSUFFICIENCIES
        20258 INSUFFICIENCY
                (INSUFFICIENCY OR INSUFFICIENCIES)
        99717 (HEPATIC OR LIVER OR HEPATO) (L) (DISEASE OR CONDITION OR INSUFF
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L12       869 L8 AND (HEPATITIS OR CIRRHOSIS OR LIVER INFLAMMATION OR ?CIRRHOS
              IS OR ((HEPATIC OR LIVER OR HEPATO) (L) (DISEASE OR CONDITION
             OR INSUFFICIENCY)))

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        88048 ALBUMINS
       153276 ALBUMIN
                (ALBUMIN OR ALBUMINS)
           50 ALBUMINE
            9 ALBUMINES
           59 ALBUMINE
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L13        50 L12 AND (ALBUMIN OR ALBUMINE)

=> focus
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L14         50 FOCUS L13 1-

=> s l14 and pd <=1997
L15         50 S L14
     18368651 PD <=1997
                (PD<=19979999)
L16         30 L15 AND PD <=1997

=> d ibib abs 1-30 hitstr

L16  ANSWER 1 OF 30  CAPLUS  COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER:        1999:27639  CAPLUS
DOCUMENT NUMBER:         130:236823
TITLE:                   Effect of a dietary integration with BCAA or casein on
                         nutritional state and lower limb amino acid exchange
                         in cirrhosis
AUTHOR(S):               Campo, G.; Amodio, P.; Caregaro, L.; Sacerdoti, D.;
                         Bolognesi, M.; Burlina, A.; Plebani, M.; Pesenti, F.
                         Francini; Gatta, A.
CORPORATE SOURCE:        Department of Clinical and Experimental Medicine,
                         University of Padova, Padua, 35128, Italy
SOURCE:                  Advances in Hepatic Encephalopathy & Metabolism in
                         Liver Disease, [International Symposium on Ammonia],
                         9th, Newcastle upon Tyne, May 4-6, 1996 (1997***)
                         , Meeting Date 1996, 149-155. Editor(s): Record,
                         Christopher O.; Al-Mardini, Hanan. University of
                         Newcastle upon Tyne, Medical Faculty: Newcastle upon
                         Tyne, UK.
                         CODEN: 66NFAS
DOCUMENT TYPE:           Conference
LANGUAGE:                English
AB   Alterations of the protein metab. in liver   ***cirrhosis were
     evaluated in 10 cirrhotic patients aged 48-69 yrs in a 3-mo study.  A diet
     with 30 kcal/kg ideal body wt. was supplemented with 19.2 g branched-chain
     amino acids (BCAA; 9.6 g Leu, 4.8 g Ile, 4.8 g Val) or 19.2 g casein.  A
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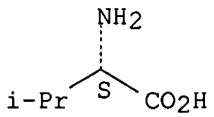
nutritional index (NI) was evaluated at the end of the study by adding the percentage variations of triceps skin fold, mid arm muscle circumference, serum **albumin**, and transthyretin. Leg blood flow was evaluated by Doppler technique. Fasting arterial and femoral venous blood was assayed for plasma amino acids (AA), insulin, and glucagon. At the end of the study NI was improved by 14% (95%CI 5-23%) for all cases, 12% (95%CI 3-20%) for the BCAA group, and 17% (95%CI -4 to 37%) for the casein group. Femoral blood flow and plasma insulin and glucagon levels did not change (350±34 vs. 350±34 mL/min, 13.9±3.2 vs. 14.3±7.3 mU/L, 75.8±28 vs. 85.1±39.5 ng/L). The total amino acid arteriovenous difference in the 2 groups changed (-209±190 μM before vs. -8.1±205.4 μM after treatment), but no significant difference was found between the groups A and B (-195±77 vs. -206±60 μM). Thus, muscle AA release after an overnight fast was decreased in cirrhotic patients independently of the nitrogen source when ameliorating the nutritional status.

IT **72-18-4**, **L-Valine**, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(dietary branched-chain amino acids or casein effects on nutritional status and lower limb amino acid exchange in patients with liver **cirrhosis**)

RN 72-18-4 CAPLUS
CN L-Valine (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 2 OF 30 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1997:496325 CAPLUS
DOCUMENT NUMBER: 127:203936
TITLE: Change of serum L-tryptophan levels following the development and recovery of acute puromycin aminonucleoside nephrosis in rats
AUTHOR(S): Sasaki, E.; Ohta, Y.; Shinohara, R.; Ishiguro, I.
CORPORATE SOURCE: School Medicine, Fujita Health University, Toyoake, 470, Japan
SOURCE: Amino Acids (**1997**), 12(3-4), 353-361
CODEN: AACIE6; ISSN: 0939-4451
PUBLISHER: Springer
DOCUMENT TYPE: Journal
LANGUAGE: English

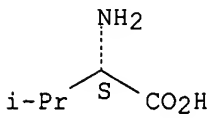
AB It is known that total L-Trp levels decrease with a decrease in **albumin**-bound Trp levels and an increase in free Trp levels in the blood plasma or serum of nephrotic children. The change of serum Trp levels were examined following the development and recovery of acute nephrosis in 6-wk-old rats injected once with puromycin amino-nucleoside (100 mg/kg body weight) and checked the levels of 16 amino acids including Trp in the serum and the levels of Trp in the **liver**, kidney, and urine under nephrotic **conditions**. The development and recovery of nephrosis were checked by the changes of levels of urinary protein and serum protein and **albumin**. Total serum Trp and **albumin** -bound serum Trp levels decreased with the development of nephrosis and these decreased levels returned to the normal level with its recovery. In contrast, free serum Trp levels increased with the development of nephrosis and this increased level returned to the normal level with its

recovery. In the serum of nephrotic rats, the decrease of **albumin**-bound Trp levels and the increase of free Trp levels were well consistent with a decrease in **albumin** levels and an increase in the level of non-esterified fatty acids which are known to weaken the binding of Trp to **albumin** and among 16 amino acids studied, only Trp showed a significant change in its levels. Trp levels increased in the **liver** and kidney but not in the urine under nephrotic **conditions**. These results indicate that the change of serum Trp levels should be closely related to the **condition** of nephrosis and that although serum Trp is lost under nephrotic **conditions**, the lost serum Trp is accumulated in the **liver** and kidney.

IT **72-18-4, L-Valine**, biological studies
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(blood serum L-tryptophan in acute nephrosis)

RN 72-18-4 CAPLUS
CN L-Valine (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



L16 ANSWER 3 OF 30 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1997:430802 CAPLUS
DOCUMENT NUMBER: 127:121055
TITLE: Effects of caloric intake on anticancer therapy in rats with **valine**-depleted amino acid imbalance
AUTHOR(S): Komatsu, Hiromichi; Nishihira, Tetsuro; Chin, Masahiro; Doi, Hideyuki; Shineha, Ryuzaburo; Mori, Shozo; Satomi, Susumu
CORPORATE SOURCE: Second Dep. Surgery, Tohoku Univ. School Medicine, Sendai, 980-77, Japan
SOURCE: Nutrition and Cancer (**1997**), 28(1), 107-112
CODEN: NUCADQ; ISSN: 0163-5581
PUBLISHER: Lawrence Erlbaum Associates, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

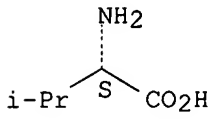
AB **Valine**-depleted amino acid imbalance solution markedly inhibits tumor growth but causes fatty liver as a side-effect. The mechanism of fatty liver development is unknown. **Valine**-depleted amino acid imbalance solution containing various concns. of calories was administered to tumor-bearing rats for 4 days as a total parenteral nutritional to investigate the interactions of caloric intake and development of fatty liver. Compared with the total parenteral nutrition control group, the triglyceride content of the liver rose significantly in the group given **valine**-depleted amino acid imbalance solution with an increase in caloric intake. Blood plasma total protein and **albumin** significantly decreased. The very-low-d. lipoprotein concentration in blood serum was also significantly lower than that in the control group. **Valine**-depleted amino acid imbalance caused hypoproteinemia, suggesting a fall in the synthesis of apolipoproteins in the liver indispensable for lipid release. Along with the increase in the total caloric intake, triglyceride synthesis in the liver increased, resulting in augmentation of fatty content of the liver, probably because of the decreased lipid release.

IT **72-18-4, L-Valine**, biological studies
RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(caloric intake effect on fatty liver in anticancer therapy with **valine**-depleted amino acid solution in rats)

RN 72-18-4 CAPLUS
CN L-Valine (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



L16 ANSWER 4 OF 30 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1996:441065 CAPLUS
DOCUMENT NUMBER: 125:109689
TITLE: Human liver epithelial cell line and culture media for this cell line
INVENTOR(S): Cole, Katharine H.; Lechner, John F.; Reddel, Roger; Harris, Curtis C.; Pfeifer, Andrea M.
PATENT ASSIGNEE(S): United States Dept. of Health and Human Services, USA
SOURCE: U.S., 16 pp., Cont.-in-part of U.S. 5,342,777.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5529920	A	19960625	US 1992-879165	19920501 <--
US 284331	A0	19890615	US 1988-284331	19881214 <--
US 5342777	A	19940830	US 1992-844873	19920303 <--
US 5665589	A	19970909	US 1993-25336	19930303 <--
WO 9420607	A1	19940915	WO 1994-US1910	19940303 <--
W: AU, CA, JP				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9463516	A	19940926	AU 1994-63516	19940303 <--
EP 687294	A1	19951220	EP 1994-910730	19940303 <--
EP 687294	B1	20040602		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
AT 268378	T	20040615	AT 1994-910730	19940303
ES 2222456	T3	20050201	ES 1994-910730	19940303
US 5759765	A	19980602	US 1995-458878	19950602

PRIORITY APPLN. INFO.:

US 1988-284331	B1	19881214
US 1988-284368	B1	19881214
US 1989-377967	B1	19890711
US 1992-844873	A2	19920303
US 1992-879165	A2	19920501
US 1993-25336	A	19930303
WO 1994-US1910	W	19940303

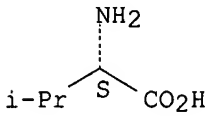
AB The present invention relates to long-term multiplication and permanent establishment of a cell line of human **liver** epithelial cells (hepatocytes). The human **liver** epithelial cell line is capable of mitotically proliferating and continuously growing in vitro under suitable environmental **conditions** in suitable culture media. A method of producing an immortalized human **liver** epithelial cell line is also disclosed. The invention also relates to serum-free cell medium developed to support long-term multiplication and permanent establishment of a cell line of human **liver** epithelial cells. The medium may contain an effective cell growth-promoting amount of calcium ions; an effective cell growth-promoting amount of glucose; an effective amount of insulin to aid cells in glucose uptake; an effective cell

growth-promoting amount of hydrocortisone; an effective amount of epidermal growth factor to bind epidermal growth factor receptors on cells; an effective amount of transferrin to increase DNA synthesis in cells; an effective amount of cholera toxin to increase DNA synthesis in cells; an effective amount of triiodothyronine to increase DNA synthesis in cells; and an effective growth-promoting amount of mammalian hormones and mitogenic factors, including lipoprotein, cholesterol, phospholipids, and fatty acids.

IT **72-18-4, Valine**, biological studies
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(human liver epithelial cell line and culture media for it)

RN 72-18-4 CAPLUS
CN L-Valine (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



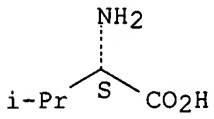
L16 ANSWER 5 OF 30 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1996:322437 CAPLUS
DOCUMENT NUMBER: 125:9376
TITLE: Effects of calories on **valine**-deplated amino acid imbalance-induced fatty liver in rats
AUTHOR(S): Komatsu, Hiromichi; Nishihira, Tetsuro; Chin, Masahiro; Koi, Hideyuki; Shineha, Ryuzaburo; Satomi, Susumu; Mori, Shozo
CORPORATE SOURCE: Second Department Surgery, Tohoku University School Medicine, Sendai, 980, Japan
SOURCE: Geka to Taisha, Eiyo (**1996**), 30(2), 111-119
CODEN: GTEIDA; ISSN: 0389-5564
PUBLISHER: Nippon Geka Taisha Eiyo Gakkai
DOCUMENT TYPE: Journal
LANGUAGE: Japanese

AB A **valine**-depleted amino acid imbalance solution induces fatty liver development as a side effect. In this study, we administered this solution containing various concns. of calories to tumor-bearing rats for 4 days by means of total parenteral nutrition to investigate the interaction of calorie administration and fatty liver development. Compared with rats which received TPN solution (control group), those which received **valine**-depleted amino acid imbalance solution (Val (-) group) showed a significant increase in calorie dependence of the level of liver triglyceride. Also in this group, the plasma **albumin** and total protein levels significantly decreased, and the serum very low d. lipoprotein (VLDL) was at a significantly low level. The results suggest that **valine**-depleted amino acid imbalance therapy induces a low serum protein state, which inhibits liver apo- and lipoprotein synthesis, indispensable to the release of lipid. In addition, we speculate that fatty changes in the liver worsened due to decrease in the release of lipids despite the acceleration of triglyceride synthesis induced by increased calorie administration.

IT **72-18-4, Valine**, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(effects of calories on **valine**-deplated amino acid imbalance-induced fatty liver in tumor-bearing rats)

RN 72-18-4 CAPLUS
CN L-Valine (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



L16 ANSWER 6 OF 30 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1993:559003 CAPLUS
DOCUMENT NUMBER: 119:159003
TITLE: Effects of soy protein diets on nutritional status of cirrhotic patients
AUTHOR(S): Kato, Masahiko; Yoshida, Takashi; Moriwaki, Hisataka; Muto, Yasutoshi
CORPORATE SOURCE: Sch. Med., Gifu Univ., Gifu, 500, Japan
SOURCE: Daizu Tanpakushitsu Eiyo Kenkyukai Kaishi (**1991**), 12(1), 121-6
CODEN: DTEKDH; ISSN: 0288-6219
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
AB It has been reported that soy protein (SP) is useful as a component of basal diet for cirrhotic patients with a protein-intolerant state. Cirrhotic patients were provided 2000 kcal energy and 70 g protein/day, and the compositional ratio of dietary protein was as follows: group I (n = 7): 50% SP-free vegetable protein (VP) and 50% animal protein (AP), group II (n = 8): 50% VP, 25% SP and 25% AP, and group III (n = 8): 50% VP and 50% SP. No significant changes were observed in phys. status, liver function tests, serum levels of total protein, **albumin**, rapid turnover protein, or NH3 before and 4 wk after administration of test diets. Levels of plasma **valine** and total BCAA were significantly elevated 4 wk after administration in group III. BCAA/AAA ratio was significantly reduced 4 wk after administration in group I. The composition of group II is the most appropriate, being based on its excellent compliance and beneficial effect of the soy protein itself.

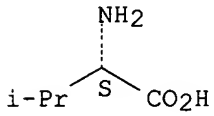
L16 ANSWER 7 OF 30 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1992:20135 CAPLUS
DOCUMENT NUMBER: 116:20135
TITLE: Nutritive effect of alternate daily ingestion of high- and non-protein diets in growing rats
AUTHOR(S): Sugiyama, Kaoru; Iwami, Kimikazu; Ibuki, Fumio
CORPORATE SOURCE: Dep. Agric. Chem., Kyoto Prefect. Univ., Kyoto, 606, Japan
SOURCE: Agricultural and Biological Chemistry (**1991**), 55(11), 2777-83
CODEN: ABCHA6; ISSN: 0002-1369
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Rats were fed for 5 wk with a non-protein diet and either a 20%, 40%, or 60% casein diet on alternate days. The growth and functional changes under such feeding **conditions** were compared with those in rats given free access to a 5%, 10%, or 20% casein diet during the period. Two groups with alternation of the non-protein and high-protein (40% or 60% casein) diets, irresp. of the high protein intake as a whole, were almost equal in growth to a control daily receiving the 10% casein diet. The plasma protein, glucose, and fat levels in these groups were similar to those in another control daily receiving the 20% casein diet. Although the group with alternation of the non-protein and 20% casein diets was inferior in growth to the above 2 groups, the plasma parameter levels were similar to those in the control daily receiving the 10% casein diet. A considerable increase in the **hepatic** levels of GSH and serine

dehydratase activity was observed in the group with alternate-day ingestion of the 60% casein diet. Nevertheless, a comparison of the free amino acid levels in the plasma revealed that alternate-day ingestion of the 40% or 60% casein diet nutritionally approximated to daily ingestion of the 10% casein diet rather than to daily ingestion of the 20% casein diet.

IT **72-18-4, Valine**, biological studies
RL: BIOL (Biological study)
(nutritional status of, alternate daily ingestion of high- and non-protein diets effect on)

RN 72-18-4 CAPLUS
CN L-Valine (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



L16 ANSWER 8 OF 30 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1991:520064 CAPLUS
DOCUMENT NUMBER: 115:120064
TITLE: Galactose-based enteral and parenteral feeding solutions
INVENTOR(S): Reutter, Werner; Roser, Martin
PATENT ASSIGNEE(S): Germany
SOURCE: Ger. Offen., 10 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

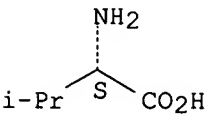
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3935906	A1	19910502	DE 1989-3935906	19891027 <--
DE 3935906	C2	19930617		
PRIORITY APPLN. INFO.:			DE 1989-3935906	19891027

AB Solns. for enteral and parenteral feeding comprise monosaccharides, essential amino acids, electrolytes and proteins. Of the monosaccharides, ≥5% consist of D-galactose, L-glucose, D-mannose, D-glucosamine, N-acetylgalactosamine, N-acetylmannosamine, D-lactose and/or D-lactose, with D-galactose ≥50% of the above monosaccharide total. Since D-galactose restores the function of the metabolism receptors and transport systems, the solns. are especially useful for patients in coma or stress. An infusion solution comprised D-galactose 25, D-mannose 25, arginine 5, phenylalanine 7, **valine** 5, leucine 7, isoleucine 6, lysine 6, methionine 5, dextran 25, hydroxyethyl starch 25, KCl 4, CaCL2 3, MgCl2 2 g/L and NaCl q.s.

IT **72-18-4, Valine**, biological studies
RL: BIOL (Biological study)
(feeding solns. containing, enteral and parenteral)

RN 72-18-4 CAPLUS
CN L-Valine (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

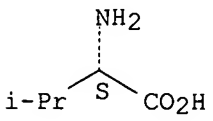


L16 ANSWER 9 OF 30 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1990:476984 CAPLUS
DOCUMENT NUMBER: 113:76984
TITLE: Nutritional effects of TAT-7180, an amino acid injection containing glucose and electrolytes. (III). Nutritional effects on undernourished rats
AUTHOR(S): Iwasawa, Yasuo; Kishi, Tetsuya; Morita, Motoyo; Ikeda, Keiko; Shima, Hideaki; Sato, Tadashi
CORPORATE SOURCE: Res. Lab. Appl. Biochem., Tanabe Seiyaku Co., Ltd., Osaka, 532, Japan
SOURCE: Iyakuhin Kenkyu (**1990**), 21(2), 199-212
CODEN: IYKEDH; ISSN: 0287-0894
DOCUMENT TYPE: Journal
LANGUAGE: Japanese

AB The nutritional effects of TAT-7180, a 2.75% amino acid injection with 7.5% glucose and electrolytes, were compared with those of 2 com. available injections A (containing 10% glucose and electrolytes) and B (containing 2.72% amino acid, 7.5% glucose and electrolytes), using undernourished rats. Undernourished rats weighing .apprx.220 g were prepared by feeding a nonprotein diet ad libitum for 2 wk. After the 2-wk feeding of a nonprotein diet, the rats exhibited an obviously undernourished state. Thereafter, each test solution was infused i.v. at a rate of .apprx.60 mL/rat/day (.apprx.27/ mL/kg/day) under fasting **conditions** for 5 days. TAT-7180 showed effects superior to that of A on gain in body weight, N balance, amino acid profile in plasma, electrolyte balance, and normalization of N and lipid contents in the **liver**. In comparison with B, TAT-7180 improved the amino acid profile in plasma, electrolyte balance, and plasma electrolyte levels. Thus, TAT-7180 is more effective for nutritional support of undernourished rats than the 2 control injections.

IT **72-18-4**, **Valine**, biological studies
RL: BIOL (Biological study)
(of blood plasma and urine, parenteral amino acid solution containing glucose and electrolytes, TAT-7180, effect on)
RN 72-18-4 CAPLUS
CN L-Valine (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



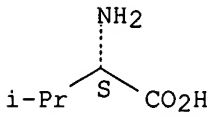
L16 ANSWER 10 OF 30 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1990:212095 CAPLUS
DOCUMENT NUMBER: 112:212095
TITLE: Carbon tetrachloride-induced experimental **cirrhosis** in the rat: a reappraisal of the model
AUTHOR(S): Ariosto, F.; Riggio, O.; Cantafora, A.; Colucci, S.; Gaudio, E.; Mechelli, C.; Merli, M.; Seri, S.; Capocaccia, L.
CORPORATE SOURCE: Univ. Roma 'La Sapienza', Rome, I-00185, Italy
SOURCE: European Surgical Research (**1990**), Volume Date 1989, 21(5), 280-6
CODEN: EUSRBM; ISSN: 0014-312X
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The presence of extrahepatic damage and the uniformity and reversibility of the histol. findings in CCl4-induced liver **cirrhosis** in the rat were evaluated. To verify these findings, rats were sacrificed 2 and 10 wk after a treatment consisting of ten intragastric doses of CCl4, administered weekly. All treated rats developed an irreversible micronodular **cirrhosis** with no damage to the brain, kidney, and pancreas. Moreover, rats sacrificed 2 wk after the last CCl4 dose showed a number of functional alterations usually observed in man. In particular, low branched-chain/aromatic amino acids plasma ratio, high ammonia, low zinc, and high insulin with normal blood glucose were obtained.

IT **72-18-4, L-Valine**, biological studies
RL: BIOL (Biological study)
(of blood plasma, carbon tetrachloride effect on, liver **cirrhosis** model in relation to)

RN 72-18-4 CAPLUS
CN L-Valine (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



L16 ANSWER 11 OF 30 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1990:197000 CAPLUS
DOCUMENT NUMBER: 112:197000
TITLE: Effects of **valine** on nitrogen-15 incorporation into serum and tissue protein and non-protein fractions following 15N-L-leucine administration to normal and liver-injured rats
AUTHOR(S): Okita, Misako; Watanabe, Akiharu; Tsuji, Takao
CORPORATE SOURCE: Dep. Food Nutr., Okayama Prefect. Jr. Coll., Okayama, 700, Japan
SOURCE: Journal of Nutritional Science and Vitaminology (**1989**), 35(6), 559-67
CODEN: JNSVA5; ISSN: 0301-4800
DOCUMENT TYPE: Journal
LANGUAGE: English

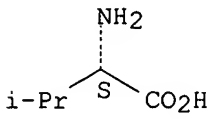
AB The effects of the proportions of 3 branched-chain amino acids (leucine, **valine**, and isoleucine; BCAA) on N utilization were studied in vivo by an intragastric administration of L-[15N]leucine to control CCl4 liver-injured rats. Following the administration of an isonitrogenous dose of the 3 amino acid solns. [Standard (15N-labeled L-leucine, **L-valine**, L-isoleucine, and L-alanine; 11, 8, 6, 18 mg/mL), Low-val (11, 2, 6, 23 mg/mL), and High-Val (11, 32, 6, 0 mg/mL)], 15N enrichments in serum **albumin**, liver, skeletal muscle, and brain proteins and non-protein fractions, and urea N were compared by using a 15N-analyzer. In CCl4-rats, the 15N enrichment in the liver protein fraction was lower in the High-Val group than in the Low-Val group. However, the difference of 15N enrichment in serum **albumin** between Low-Val and High-Val groups in CCl4-rats was unclear. The 15N enrichments in non-protein fractions of the brain in CCl4-rats were .apprx.2-fold those in the skeletal muscles, and the highest 15N enrichment was observed in the Low-Val group. In the non-protein fraction of skeletal muscle in CCl4-rats, low 15N enrichment was shown in the High-Val group compared with the Low-Val group. The 15N enrichment in urinary urea was higher in the High-Val group than in the Low-Val group in CCl4-rats. In the Standard group of control rats, 15N enrichments in serum **albumin** and protein fraction of skeletal muscle were higher than in other groups. In non-protein fractions of control rats, the lowest 15N enrichment in liver and the highest 15N enrichment in skeletal muscle were observed in the Standard

group. Apparently a large **valine** supplement in the BCAA is less useful for leucine utilization in liver-injured rats than in normal rats.

IT **72-18-4, Valine,** biological studies
RL: BIOL (Biological study)
(branched chain amino acids metabolism in blood serum and tissues response to)

RN 72-18-4 CAPLUS
CN L-Valine (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



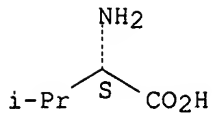
L16 ANSWER 12 OF 30 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1989:613730 CAPLUS
DOCUMENT NUMBER: 111:213730
TITLE: Effect of supplementation with branched-chain amino acids on protein nutritional status in rats treated by carbon tetrachloride
AUTHOR(S): Ohashi, Hiroyuki; Sukegawa, Eiji; Takami, Toru; Yoshida, Takashi; Muto, Yasutoshi
CORPORATE SOURCE: Life Sci. Lab., Ajinomoto Co., Inc., Yokohama, Japan
SOURCE: Nippon Shokakibyo Gakkai Zasshi (**1989**), 86(8), 1645-53
CODEN: NIPAA4; ISSN: 0369-4259
DOCUMENT TYPE: Journal
LANGUAGE: Japanese

AB The effects of oral supplementation with branched-chain amino acids (BCAA) on protein-nutrition were examined in rats with **cirrhosis**. **Cirrhosis** was induced in male Sprague-Dawley rats by simultaneous administration of CCl4 (500 mg/kg, twice a week, s.c.) and phenobarbital (0.05% in drinking water, ad libitum) for 30 wk. Following treatment with CCl4 and phenobarbital, cirrhotic rats received oral supplementation of BCAA with varying ratios of isoleucine (Ile), leucine (Leu), and **valine** (Val), or with varying levels of total BCAA in the diet (total N content was kept consistent by the addition of glutamine). The nutritional efficacies of diets were evaluated by determining N balance and plasma levels of total protein, **albumin**, and free neutral amino acids. A ratio of Ile:Leu:Val at 1:2:1.2 or at 2:1:1 was most effective in maintaining N balance and plasma amino acid pattern compared to Ile:Leu:Val at 1:1:2 or either Val, Ile, or Leu alone. An examination of the total BCAA in the diet (0, 2.5, 5, 10%), showed that 2.5% was the most appropriate in terms of N balance and plasma protein concentration Thus, 2.5% BCAA in the diet with the ratio of Ile:Leu:Val at 1:2:1:2 or 2:1:1 is recommended for the improvement the impaired protein nutritional status in **cirrhosis**.

IT **72-18-4, L-Valine,** biological studies
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); FFD (Food or feed use); BIOL (Biological study); USES (Uses)
(in diet with other branched-chain amino acids in **cirrhosis** therapy)

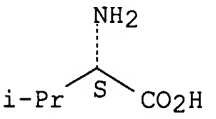
RN 72-18-4 CAPLUS
CN L-Valine (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



L16 ANSWER 13 OF 30 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1989:493121 CAPLUS
DOCUMENT NUMBER: 111:93121
TITLE: Determination of branched-chain amino acids and tyrosine in serum of patients with various **hepatic diseases**, and its clinical usefulness
AUTHOR(S): Azuma, Yutaro; Maekawa, Masato; Kuwabara, Yoshiko; Nakajima, Takeyuki; Taniguchi, Ken; Kanno, Takashi
CORPORATE SOURCE: Sch. Med., Hamamatsu Univ., Hamamatsu, 431-31, Japan
SOURCE: Clinical Chemistry (Washington, DC, United States) (**1989**), 35(7), 1399-403
CODEN: CLCHAU; ISSN: 0009-9147
DOCUMENT TYPE: Journal
LANGUAGE: English
AB An automated enzymic method was developed for the determination of branched-chain amino acids (BCAAs; **valine**, isoleucine, leucine) and tyrosine in serum, and applied to the clin. evaluation of patients with various **hepatic diseases**. Anal., the test results were acceptably precise and reproducible, and correlated well with results obtained with an amino acid analyzer. Clin., a decrease in BCAAs, an increase in tyrosine, and the BCAAs/tyrosine ratio in serum paralleled the severity of **hepatic** parenchymal damage. This enzymic determination of BCAAs and tyrosine is simple and convenient enough for routine clin. laboratory use, and the ratio of BCAAs/tyrosine obtained may be a good indicator of the severity of **hepatic** disorders.
IT **72-18-4**, **Valine**, analysis
RL: ANT (Analyte); ANST (Analytical study)
(determination of, enzymic, in blood serum of humans with **hepatic diseases**, serum tyrosine in relation to)
RN 72-18-4 CAPLUS
CN L-Valine (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



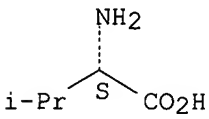
L16 ANSWER 14 OF 30 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1989:151590 CAPLUS
DOCUMENT NUMBER: 110:151590
TITLE: Hematological and biochemical analyses of Atlantic salmon, Salmo salar L., suffering from coldwater vibriosis ('Hitra disease')
AUTHOR(S): Waagbo, R.; Sandnes, K.; Espelid, S.; Lie, O.
CORPORATE SOURCE: Inst. Nutr., Univ. Tromso, Forut, Norway
SOURCE: Journal of Fish Diseases (**1988**), 11(5), 417-23
CODEN: JFIDDI; ISSN: 0140-7775
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Juvenile Atlantic salmon, S. salar, were sampled from a com. Norwegian

fish farm during an outbreak of Hitra **disease**. One group of fish subjectively judged as healthy and another as diseased were defined on the basis of the classical apathetic behavior seen in Hitra-diseased salmon. Hematol. and biochem. analyses were carried out from blood and organs in 10 fish from each group. The diseased fish were severely anemic. The blood indexes indicated active erythropoiesis to compensate for the loss. Alkaline phosphatase activity, total protein, **albumin**, creatinine, triglycerides, and total cholesterol were significantly reduced in the serum of diseased fish, whereas the activities of aspartate aminotransferase and alanine aminotransferase showed normal and increased values, resp. The **liver** and spleen weight relative to the body weight and the content of water and lipid in the **liver** were elevated in diseased fish. Furthermore, the iron content of the spleen was increased, whereas the zinc content showed no changes. Levels of the branched-chain amino acids **valine**, leucine, and isoleucine were higher and serine lower in muscle exts. of diseased fish.

IT **72-18-4**, **Valine**, biological studies
RL: BIOL (Biological study)
(of muscle, of salmon in Hitra disease)

RN 72-18-4 CAPLUS
CN L-Valine (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



L16 ANSWER 15 OF 30 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1987:406220 CAPLUS
DOCUMENT NUMBER: 107:6220
TITLE: Effect of enrichment of infusion solutions with branched chain amino acids in parenteral nutrition of rats
AUTHOR(S): Kikuchi, Takeo; Fukudome, Shoko; Ikemoto, Hitomi; Tsutsui, Ikuko; Tanaka, Hyotaro; Kokuba, Yukifumi; Orita, Yoshimasa; Chiku, Kazuo; Natori, Yasuo
CORPORATE SOURCE: Res. Lab., Morishita Pharm. Co., Ltd., Shiga, 520-23, Japan
SOURCE: Journal of Nutritional Science and Vitaminology (**1987**), 33(1), 63-73
CODEN: JNSVA5; ISSN: 0301-4800
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The effect of enrichment of the branched chain amino acids (BCAAs) leucine, isoleucine, and **valine** on total parenteral nutrition was studied in rats. Exptl. infusion solns. with a sufficient, marginal, or deficient level of glucose contained either the conventional amino acid composition (22.6% BCAAs) or a BCAA-enriched amino acid composition (36% BCAAs).

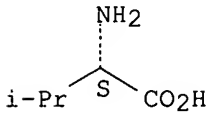
Rats were infused with exptl. solns. for 4 days and several parameters of protein metabolism were evaluated in various tissues. Under **conditions** of sufficient energy supply, BCAA-enriched and conventional groups showed similar body weight gains and muscle protein degrdns., as measured by urinary 3-methylhistidine excretion. Polysome profiles in the **liver** and gastrocnemius muscle of the BCAA-enriched group were more heavily aggregated than those of the conventional group. Under the **conditions** of marginal or deficient energy supply, beneficial effects of BCAA enrichment over the conventional amino acid composition became more evident in terms of better body weight retention, higher RNA/DNA ratio and heavier polysome profile in both

liver and muscle, and reduced protein catabolism in muscle. Thus, enrichment of BCAAs, particularly **valine** and isoleucine, may be useful for nutritional support under hypercatabolic or stressed **conditions**.

IT **72-18-4, Valine**, biological studies
RL: BIOL (Biological study)
(protein formation by liver and muscle response to parenteral, in calorie deficiency)

RN 72-18-4 CAPLUS
CN L-Valine (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



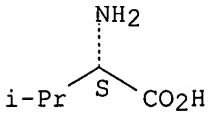
L16 ANSWER 16 OF 30 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1986:86416 CAPLUS
DOCUMENT NUMBER: 104:86416
TITLE: Long-term biochemical and physiologic effects of surgically placed portacaval shunts in dogs
AUTHOR(S): Schaeffer, Monica C.; Rogers, Quinton R.; Buffington, C. A.; Wolfe, Bruce M.; Strombeck, Donald R.
CORPORATE SOURCE: Sch. Vet. Med., Univ. California, Davis, CA, 95616, USA
SOURCE: American Journal of Veterinary Research (**1986**), 47(2), 346-55
CODEN: AJVRAH; ISSN: 0002-9645
DOCUMENT TYPE: Journal
LANGUAGE: English

AB After surgical placement of end-to-side portacaval shunts (PCS), 4 adult mongrel dogs were fed purified diets and monitored for approx. 50 wk for changes in body weight, neurol. status, and an array of clin. important biochem. variables in order to understand the physiol. and biochem. changes which take place after PCS and in the development of hepatic encephalopathy. Two healthy dogs, fed the same diets and maintained in the same environment, were also observed (controls). Body wts. were relatively stable over the period of observation. The branched-chain ratio ([**valine**] + [leucine] + [isoleucine]/[phenylalanine] + [tyrosine]), an index of the degree of change in plasma amino acid concns., was significantly lower in dogs with PCS than in controls. Despite this depression in branched-chain ratio, the principals (dogs with PCS) were essentially free of neurol. symptoms. Statistically significant decreases due to portacaval shunting were seen in the serum concns. of glucose, Ca, urea N, creatinine, cholesterol, and **albumin**. Total protein, globulin, and triglyceride concns. tended to be lower in the serum of principals than in serum of controls, but the differences were not significant. Significant increases due to portacaval shunting were seen in plasma concns. of total conjugated bile acids and sulfobromophthalein retention. Concns. of the following compds. tended to be higher in serum of principals than in serum of controls: P, Cl^-, uric acid, total bilirubin, lactate dehydrogenase, aspartate transaminase, alanine transaminase, and alkaline phosphatase. Liver biopsy at 7 mo after operation showed mild-to-extensive atrophy of hepatocytes, mild-to-extensive fibrosis, and collapsed portal veins in all principals examined

L16 ANSWER 17 OF 30 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1985:492701 CAPLUS
DOCUMENT NUMBER: 103:92701

TITLE: Analysis of amino acid contents of Xiangyun (Lentinus edodes and Polystictus versicolor) extract
AUTHOR(S): Rong, Cuiquin; Zhu, Changsheng
CORPORATE SOURCE: Nanjing Univ., Nanjing, Peop. Rep. China
SOURCE: Nanjing Daxue Xuebao, Ziran Kexue (**1984**), (1), 134-8
CODEN: NCHPAZ; ISSN: 0469-5097
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB Contents of aromatic and S-containing amino acids in exts. of Xiangyun (exts. of L. edodes and P. versicolor; prepns. for treatment of **hepatitis**) were close to those in PSK (a protein-bound polysaccharide preparation) but lower than those in α-casein, egg **albumin** and soybean globulin. Thus, these 2 categories of amino acids may not have adverse effect on heptatits patients.
IT **72-18-4**, biological studies
RL: BIOL (Biological study)
(of Lentinus edodes and Polystictus versicolor exts.)
RN 72-18-4 CAPLUS
CN L-Valine (CA INDEX NAME)

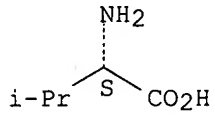
Absolute stereochemistry. Rotation (+).



L16 ANSWER 18 OF 30 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1985:183385 CAPLUS
DOCUMENT NUMBER: 102:183385
TITLE: Alterations of plasma and brain tryptophan in hepatic encephalopathy: a study in humans and in experimental animals
AUTHOR(S): Salerno, F.; Dell'Oca, M.; Incerti, P.; Uggeri, F.; Beretta, E.
CORPORATE SOURCE: Clin. Med. III, Univ. Milano, Milan, Italy
SOURCE: Hepatic Encephalopathy Chronic Liver Failure, [Proc. Congr. Ital. Assoc. Study Liver] (**1984**), Meeting Date 1982, 95-106. Editor(s): Capocaccia, Livio; Fischer, Joseph E.; Rossi-Fanelli, Filippo. Plenum: New York, N. Y.
CODEN: 53KAAY
DOCUMENT TYPE: Conference
LANGUAGE: English
AB The role of tryptophan in the pathogenesis of hepatic encephalopathy was investigated both in humans and in exptl. animals with a model of chronic liver failure. In 149 patients with liver **cirrhosis**, plasma free tryptophan (the amino acid not bound to **albumin**) rose when liver function was impaired. This increase was well correlated to the grade of hepatic encephalopathy. The free tryptophan/neutral amino acid ratio showed a comparable behavior. Addnl., free tryptophan markedly decreased in patients recovered from encephalopathy after infusion of an amino acid solution rich in branched-chain amino acids. In rats with portocaval anastomosis, brain tryptophan increased to a much larger extent than plasma free tryptophan did. An enhanced activity of the transport system specific for neutral amino acids through the blood brain barrier was confirmed and, at least partly, ascribed to the hyperinsulinemia present after portocaval anastomosis. Serotonin brain levels showed a relatively small increase compared to tryptophan and 5-hydroxyindolacetic acid.

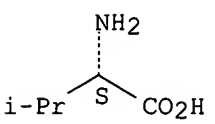
IT **72-18-4**, biological studies
RL: BIOL (Biological study)
(transport of, by blood-brain barrier in hepatic encephalopathy pathogenesis)
RN 72-18-4 CAPLUS
CN L-Valine (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



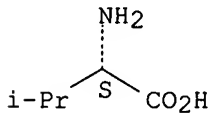
L16 ANSWER 19 OF 30 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1983:519797 CAPLUS
DOCUMENT NUMBER: 99:119797
TITLE: A study on nitrogen metabolism in primary monolayer cultured rat hepatocytes
AUTHOR(S): Okada, Shinichi
CORPORATE SOURCE: Sch. Med., Ehime Univ., Japan
SOURCE: Nippon Shokakibyo Gakkai Zasshi (**1983**), 80(6), 1288-98
CODEN: NIPAA4; ISSN: 0369-4259
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
AB The relation between the amino acid composition of the culture media or pancreatic hormones and the N metabolism in primary monolayer cultured adult rat hepatocytes was studied. The composition of the amino acids used in the incubation media was similar to that of the plasma amino acids found in normal human subjects (NAA) as well as in patients with liver **cirrhosis** (LCAA). Synthesis rates of **albumin** and total protein were determined from the rates of [14C]leucine incorporation into immunoprecipitable **albumin** and into TCA-insol. material. Intact hepatocytes, as well as D-galactosamine-pretreated hepatocytes, when incubated in NAA, synthesized 1.1-1.2-fold as much protein as hepatocytes incubated in LCAA. In protein synthesis, therefore, NAA was proved to have an advantage over LCAA. Intact hepatocytes incubated in the media containing a physiol. concentration of insulin (10-9M), glucagon (3 + 10-11M), and dexamethasone (10-8M) synthesized .apprx.1.5-fold as much protein as hepatocytes cultured in the media without these hormones. Glucagon at 10-fold the concentration of the physiol. level stimulated protein synthesis in intact hepatocytes, particularly in those hepatocytes cultured in LCAA. The active amino acid transport mechanism may be stimulated by glucagon. These results suggest that hyperglucagonemia in cirrhotic patients may be a physiol. response to plasma amino acid imbalance.
IT **72-18-4**, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(metabolism of, by hepatocyte, pancreatic hormones in relation to)
RN 72-18-4 CAPLUS
CN L-Valine (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



L16 ANSWER 20 OF 30 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1982:159914 CAPLUS
DOCUMENT NUMBER: 96:159914
TITLE: The role of amino acids in the regulation of protein synthesis in perfused rat liver. I. Reduction in rates of synthesis resulting from amino acid deprivation and recovery during flow-through perfusion
AUTHOR(S): Flaim, Kathryn E.; Peavy, Daniel E.; Everson, William V.; Jefferson, L. S.
CORPORATE SOURCE: Milton S. Hershey Med. Cent., Pennsylvania State Univ., Hershey, PA, 17033, USA
SOURCE: Journal of Biological Chemistry (**1982**), 257(6), 2932-8
CODEN: JBCHA3; ISSN: 0021-9258
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The role of perfusate amino acid concns. in regulating rates of protein synthesis was investigated using the perfused rat **liver**. **Livers** from fed rats were perfused with a nonrecirculating medium and the incorporation of [3H]leucine into **albumin** and total protein was determined under **conditions** where the leucyl-tRNA and perfusate leucine specific activities were equal and constant During perfusions of <1 h, rates of total protein synthesis were sensitive to the concns. of amino acids in the perfusate. When no exogenous amino acids were provided, rates of synthesis of **albumin** and total protein were 40% of the maximal rates which were achieved when the medium was supplemented with 5-fold the normal plasma concns. of amino acids. However, rates of synthesis in **livers** perfused with amino acid-deficient medium rose with extension of the duration of perfusion to 95 min. The defect induced by amino acid deficiency did not appear to result from redns. in the charging of tRNA since no change in the quantities of amino acids bound to tRNA occurred in the amino acid-deficient perfusion. The recovery of protein synthesis with time was prevented by inhibitors of proteolysis suggesting a role for protein degradation in this phenomenon.
IT **72-18-4**, biological studies
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(of liver, amino acid perfusion effect on)
RN 72-18-4 CAPLUS
CN L-Valine (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



L16 ANSWER 21 OF 30 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1978:505149 CAPLUS
DOCUMENT NUMBER: 89:105149
TITLE: Metabolic and endocrine changes in hepatic schistosomiasis
AUTHOR(S): Ghanem, M. G.; Fahmy, Mofid H.; Said, M.
CORPORATE SOURCE: Fac. Med., Alexandria Univ., Alexandria, Egypt
SOURCE: U. S. NTIS, AD Rep. (**1977**), AD-A052277, 40 pp. Avail.: NTIS
From: Gov. Rep. Announce. Index (U. S.) 1978, 78(14), 66
CODEN: XADRCH; ISSN: 0099-8575
DOCUMENT TYPE: Report

LANGUAGE: English

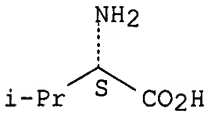
AB In hepatic schistosomiasis, the glucose disappearance rate was slower than in controls, plasma insulin levels were comparable to that of controls up to 60 mins. after glucose loading and higher at 90 mins., growth hormone levels were comparable to controls, and free fatty acids higher. Total lipids, cholesterol, phospholipids, triglycerides, and α-lipoproteins were lower than in controls. The mean total lipids, cholesterol, and phospholipids were lower in patients with collaterals than in patients without, and the difference disappeared after decongestion operation. Fat tolerance tests showed less triglyceride increment in schistosomiasis and greater rise of free fatty acids with rapid elimination. The lipoprotein lipase activity was decreased and the total phospholipid value and their fractions differed from that of controls. **Albumin** was decreased in hepatic schistosomiasis, whereas the globulins were increased. The serum amino acids glutamine, glutamic acid, and **valine** were decreased. Severe impairment of ammonia tolerance correlated with increased transaminase levels.

IT **72-18-4**, biological studies
RL: BIOL (Biological study)
(of blood serum, in schistosomiasis of liver)

RN 72-18-4 CAPLUS

CN L-Valine (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



L16 ANSWER 22 OF 30 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1978:102868 CAPLUS

DOCUMENT NUMBER: 88:102868

TITLE: Tryptophan and hepatic coma

AUTHOR(S): Ono, Jiroichi; Hutson, Duane G.; Dombro, Roy S.; Levi, Joe U.; Livingstone, Alan; Zeppa, Robert

CORPORATE SOURCE: VA Hosp., Univ. Miami Sch. Med., Miami, FL, USA

SOURCE: Gastroenterology (**1978**), 74(2, Pt. 1), 196-200
CODEN: GASTAB; ISSN: 0016-5085

DOCUMENT TYPE: Journal

LANGUAGE: English

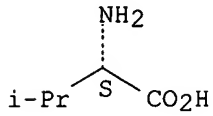
AB To clarify the involvement of tryptophan in the pathogenesis of hepatic coma, plasma and cerebrospinal fluid (CSF) tryptophan levels were studied in 3 patient groups (hepatic coma, stable **cirrhosis**, and control). An assessment of free fatty acids, some of the amino acids reported to compete with tryptophan for brain uptake, and **albumin** was also made. Whereas the elevated CSF tryptophan levels in cirrhotic patients compared to controls may have been attributable to decreased plasma branched chain amino acids, the elevated CSF tryptophan levels in hepatic coma compared to stable cirrhotic patients were probably attributable to increased plasma free tryptophan concns. Associated with the elevated plasma free tryptophan in coma patients was an increase in plasma free fatty acids and a marked decrease in serum **albumin** levels. Of all the amino acids investigated in the CSF, only tryptophan was increased in patients in hepatic coma compared to cirrhotic patients not in coma.

IT **72-18-4**, biological studies
RL: BIOL (Biological study)
(of blood plasma and cerebrospinal fluid, in **cirrhosis** and hepatic coma)

RN 72-18-4 CAPLUS

CN L-Valine (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



L16 ANSWER 23 OF 30 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1977:482298 CAPLUS
DOCUMENT NUMBER: 87:82298
TITLE: Notes on some serum protein changes in viral **hepatitis** - biochemical aspects
AUTHOR(S): Khadzhilarska, D.; Kokosharov, P.; Radkov, M.
CORPORATE SOURCE: Bulg.
SOURCE: Scripta Scientifica Medica (**1976**), 13(1), 65-8
CODEN: SSCMBX; ISSN: 0582-3250
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Of patients with viral **hepatitis**, admitted in an advanced stage of infection after the beginning of icterus, those without Australia antigen had increased serum levels of free cystine, lysine, histidine, aspartic acid, glycine, leucine, and serine; those with Australia antigen had these and also **valine** and arginine at supranormal levels, with subnormal levels of free phenylalanine. That serum proteins were normal in **hepatitis**, but the **albumin**-to-globulin ratio was lowered; both the **albumin** levels were decreased and globulins, esp α-, were increased. IgA was and IgG were higher and IgM was lower than normal in **hepatitis**. Thymol turbidity and Wetmann values were also elevated.

L16 ANSWER 24 OF 30 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1970:24642 CAPLUS
DOCUMENT NUMBER: 72:24642
TITLE: Proteinolipidic emulsions for feeding by patients by parenteral or duodenal methods
INVENTOR(S): Plan, R.; Guillot, B.
PATENT ASSIGNEE(S): Institut Merieux S. A.; Gattefosse SA
SOURCE: Fr. M., 3 pp.
CODEN: FMXXAJ
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 5900		19680429	FR 1966-79627	19661012 <--

AB A stable and tolerable proteinolipidic emulsion which can be metabolized rapidly was prepared from 21% human serum **albumin** 710, H2O 140, sterilized refined sunflower oil 150 ml. The **albumin** was stabilized by adding 0.02M Na caprylate and may be heated 10 hr at 60° to eliminate **hepatitis** virus. An emulsion containing amino acids was prepared from 30% human serum **albumin** 300, H2O 300, and refined sterilized corn oil 150 ml containing glycocine 25, tryptophan 0.8, threonine 1.5, isoleucine 1.5, **valine** 1.5, phenylalanine 1.5, leucine 2, methionine 2, and lysine 2 g.

L16 ANSWER 25 OF 30 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1969:26109 CAPLUS

DOCUMENT NUMBER: 70:26109
TITLE: Role of estrogens in blastomogenesis
AUTHOR(S): Podil'chak, M. D.
CORPORATE SOURCE: USSR
SOURCE: Tr. S'ezda Onkol. Ukr. SSR, 3rd (**1967**), Meeting Date 1963, 207-13. Editor(s): Shevchenko, I. T. Izd. "Zdorov'ya": Kiev, USSR. CODEN: 20KWAE
DOCUMENT TYPE: Conference
LANGUAGE: Russian

AB Female rabbits were injected with the synthetic estrogen, sinestrol, 1 mg. 3 times a week during the first 6 months of the experiment and 1 mg. twice a week during the following months until the end of the experiment Longterm administration of sinestrol brought about dystrophic changes in the liver; after a treatment lasting 1 year typical atrophic **cirrhosis** of the liver developed. The spleen increased in the course of the treatment; nodular hyperplasia of reticular cells occurred. The number of plasmatic cells in the spleen increased. Blood plasma **albumins** and α2-globulins were lowered; the concentration of γ-globulins was raised. Hyperplasia of the adrenal cortex appeared after .apprx.3 months of sinestrol treatment. After 1-year administration of sinestrol the average weight of adrenals was 375 mg. in exptl. compared to 194 mg. in control animals. Adenomas of the adrenal cortex were discovered in 3 of 9 examined rabbits. Heavy cystic degeneration of the ovaries occurred. Amino acid composition was examined in the liver and the spleen. There was a decrease in the content of glutamic acid, lysine, alanine, **valine** + methionine, and glycine + serine + aspartic acid in the liver. In the spleen the content of histidine, leucine, glutamic acid, and cystine was lowered. Glutamic acid, methionine, and cystine (5 mg., 5 mg., and 1.5 mg. twice a week, resp.) diminished the general toxic effects of sinestrol treatment.

L16 ANSWER 26 OF 30 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1963:444058 CAPLUS
DOCUMENT NUMBER: 59:44058
ORIGINAL REFERENCE NO.: 59:7985e-g
TITLE: The constitution of amino acids and sugars in bile protein
AUTHOR(S): Maeda, Kosei
CORPORATE SOURCE: Univ. Hirosaki
SOURCE: Hirosaki Igaku (**1959**), 10(4), 568-76 From: Biol. Abstr. 35, Abstr. No. 20663(1960). CODEN: HIRIA6; ISSN: 0439-1721
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB To clarify the process of gallstone formation in gall bladder, fractionation of the bile protein and qual. analysis of the amino acids and sugars by paper chromatography were performed. The bile proteins were separated into P- and M-components by using $HClO_4$. By qual. analysis, the P fraction had the same property as serum protein and the M fraction the same property as mucoprotein. The mucoprotein consisted of fucose, galactose, hexosamine, and about 11 amino acids, in which leucine, methionine, **valine**, and tryptophan were lacking. Two fractions were separated by adding acidified alc. to the bile; one of the fractions was rapidly precipitated and the other in 24 hrs. at room temperature The former was true protein but the latter was glycolipoprotein which had a pos. Molisch reaction and contained a large amount of P. This fraction moved faster than serum **albumin** in paper electrophoresis and was stained by both Sudan black and bromophenol blue. From the point of view of the origin of bile protein, 2 systems, such as the hepatic origin and the bladder origin, were suggested. Although it was not clarified which system was more important, a certain unstable protein produced in the bladder could give impetus to the precipitation of glycolipoprotein or cholesterol.

L16 ANSWER 27 OF 30 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1963:10496 CAPLUS
DOCUMENT NUMBER: 58:10496
ORIGINAL REFERENCE NO.: 58:1774c-e
TITLE: The effect of puromycin on the developmental and adaptive formation of tryptophan pyrrolase
AUTHOR(S): Nemeth, Andrew M.; Haba, G. De la
CORPORATE SOURCE: Univ. of Pennsylvania, Philadelphia
SOURCE: Journal of Biological Chemistry (**1962**), 237, 1190-3
CODEN: JBCHA3; ISSN: 0021-9258
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

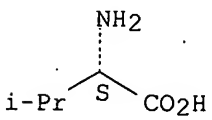
AB Puromycin inhibits the synthesis of protein from amino acid. Under **conditions** in which the incorporation of **valine**-C14 into **liver** protein is inhibited over 98%, puromycin completely blocked the normal developmental increase in tryptophan pyrrolase activity in the new-born and inhibited the adaptive increase in tryptophan pyrrolase activity in the adult .apprx.70%. Thus, it appears that the developmental increase in tryptophan pyrrolase activity after birth is due entirely to the formation of new enzyme from amino acid, whereas the adaptive increase in tryptophan pyrrolase activity in the adult after injection of L-tryptophan is brought about partly by synthesis of enzyme de novo and partly by the activation of a preexisting protein precursor. Puromycin in vivo almost completely inhibited the incorporation of **valine**-C14 into **liver** protein, prevented the esterification of soluble ribonucleic acid, and markedly increased the radioactivity in the free amino acid pool. The site and possible mechanism of the puromycin inhibition of protein synthesis are discussed.

L16 ANSWER 28 OF 30 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1959:23729 CAPLUS
DOCUMENT NUMBER: 53:23729
ORIGINAL REFERENCE NO.: 53:4405d-e
TITLE: Determination of tryptophan-rich serum prealbumin in agar
AUTHOR(S): Aly, F. W.; Schaupp, H.
CORPORATE SOURCE: Med. Univ.-Klinik, Marburg/L., Germany
SOURCE: Clinica Chimica Acta (**1958**), 4, 88-95
CODEN: CCATAR; ISSN: 0009-8981
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB A method is described for the determination of prealbumin by electrophoresis in agar gel. The protein is stained with Amidoschwarz and estimated photometrically. Normal values in 32 healthy individuals ranged from 12 to 31 mg. %, mean 22.1. Serum prealbumin levels were reduced (1.4-6.7 mg. %) in patients with virus **hepatitis**, **cirrhosis**, sarcoma, and carcinoma; however, 2 cases of the nephrotic syndrome had normal levels.

IT **72-18-4, Valine**
(determination of)
RN 72-18-4 CAPLUS
CN L-Valine (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



L16 ANSWER 29 OF 30 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1957:72875 CAPLUS
DOCUMENT NUMBER: 51:72875
ORIGINAL REFERENCE NO.: 51:13171i,13172a-c
TITLE: Amino-acid metabolism in **liver disease**
AUTHOR(S): Muting, Dieter; Wortmann, Volker
CORPORATE SOURCE: Med. Univ. Greifswald, Germany
SOURCE: Deut. med. Wochschr. (**1956**), 81, 1853-6
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB The complete amino-acid composition of various body proteins and fluids was determined by paper chromatography in normal subjects and patients with **liver disease**. The following changes were noted in **liver disease** with damage to the parenchyma. In serum **albumin**, lysine, arginine, cystine, and methionine decreased and tyrosine, tryptophan, isoleucine, glycine, and serine increased; in α-globulin, arginine decreased and isoleucine increased; in β-globulin, arginine decreased; in γ-globulin tyrosine and serine increased; and in globin, tyrosine, tryptophan, and isoleucine increased and arginine, cystine, and methionine decreased. **Liver**, muscle, and skin proteins were altered similarly in that aromatic amino acids were elevated and S-containing amino acids were decreased, but the changes were less marked than those occurring in blood. The increases in serum and urinary α-amino N in **liver disease** involved primarily increases in methionine, cystine, tyrosine, and lysine, while **valine** was depressed. In one patient with severe **hepatitis** elevations in the urinary excretion of methionine, tyrosine, and cystine paralleled the levels of the serum bilirubin. The decreased protein content of S-containing amino acids may be due to the increased urinary excretion with resultant subsequent abnormal tyrosine breakdown. The alterations in amino-acid metabolism were probably a reflection of impaired **liver** function.

L16 ANSWER 30 OF 30 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1946:6861 CAPLUS
DOCUMENT NUMBER: 40:6861
ORIGINAL REFERENCE NO.: 40:1188h-i,1189a-d
TITLE: Microbiological methods for the determination of amino acids. II. A uniform assay for the ten essential amino acids
AUTHOR(S): Stokes, Jacob L.; Gunness, Marion; Dwyer, Irla M.; Caswell, Muriel C.
CORPORATE SOURCE: Merck & Co., Rahway, NJ
SOURCE: Journal of Biological Chemistry (**1945**), 160, 35-49
CODEN: JBCHA3; ISSN: 0021-9258
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB cf. C.A. 39, 2085.3. A basic method is described for the assay of histidine, arginine, lysine, leucine, isoleucine, **valine**, methionine, threonine, tryptophan, and phenylalanine, which is applicable to natural products as well as to purified proteins and synthetic amino acid mixts. A complete analysis can be made with 1.5 g. or less of sample. All the amino acids are determined with Streptococcus faecalis, except phenylalanine, for which Lactobacillus delbruckii LD5 is used. Preparation of the basal medium is described. The amino acid to be assayed is omitted from the medium. The procedure for both bacteria is essentially that previously outlined, except for 2 minor changes in the assay with Streptococcus faecalis. The response of the 2 organisms to the amino acids tested is measured by titrating the lactic acid produced during growth. This is compared with a standard curve on which cc. of 0.05 N NaOH used is plotted against γ of the pure amino acid. Typical standard curves are given for the 10 amino acids. Under the

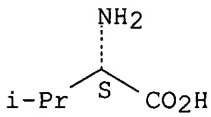
conditions used, the dl-forms (available except with histidine) are exactly half as active as the l-isomers; this indicates that the d-forms are inactive. Expts. indicate that it may be possible, for most routine work, to shorten the incubation period before titration from 40 to 16 hrs. with Streptococcus faecalis. As an alternative route to titration, the cultures can be measured turbidimetrically, where the sample itself does not impart appreciable color or turbidity to the assay medium. Streptococcus faecalis is used in the assay because its amino acid requirements are not influenced by pyridoxamine or pyridoxal, which with Lactobacillus casei and Lactobacillus arabinosus can substitute for lysine and threonine. However, it is unsuitable for assay of phenylalanine because it can synthesize this amino acid at a slow rate. Tables are given showing the amino acid content of proteins, at different assay levels, the reproducibility of amino acid values obtained, the recovery of amino acids added to proteins prior to hydrolysis, the activity of compds. related chemically or physiologically to the essential amino acids, comparison of microbiol. amino acid values of proteins with those in the literature, the effect of time of hydrolysis on liberation of amino acids from proteins, and the essential amino acid content of casein, gelatin, egg **albumin**, β-lactoglobulin, silk fibrin, tobacco mosaic virus, rye, wheat, patent flour, soybean flour, whole milk, peas, carrots, potatoes, beef **liver**, brewers' yeast, blood meal, tankage, alfalfa meal, and linseed meal.

IT **72-18-4, Valine**
(determination of)

RN 72-18-4 CAPLUS

CN L-Valine (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



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